REPORT

First Nations in Alberta

A Focus on Health Service Use

UNIVERSITY OF ALBERTA

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First Nations in Alberta
A Focus On Health Service Use

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Introduction

A Report on the Health of First Nations People in Alberta

This report describes the pattern of health services utilization of First Nations people in Alberta. We hope it will serve a number of audiences. First, it should aid policy makers in making sensitive evidence-based decisions on issues affecting the health of First Nations people. Second, it should empower health care administrators and professionals to create or enhance programs and services that lead to positive health and social change. Third, it should inform First Nations communities about the health issues they face and empower them to meet the health service delivery challenges. Finally, it should encourage academics and researchers to engage in research in the field of Aboriginal health.

A Somber Reality

Academic studies often conclude First Nations people have poor health compared to non-First Nations people. This report, unfortunately, will be no different. It records a sombre reality lived in First Nations families and communities, even as the 21st century begins.

Health Surveillance

This report stems from a process of health surveillance. Health surveillance is not individual surveillance, and it does not threaten individual rights or freedoms. Rather it is the "ongoing systematic collection, analysis, and interpretation of outcome-specific data for use in the planning, implementation, and evaluation of public health practice."[45]

The Advisory Committee

To provide context, direction, and understanding to the project, an advisory committee was formed and a project manager was recruited from the University of Alberta.

Each advisory committee member brought one or more of the following characteristics to the project: a capacity to affect health change amongst First Nations people, expertise in First Nations health issues, representation of First Nations peoples and Treaty areas, and a willingness to work on behalf of the project.

The Process

Advisory committee members were asked to attend three full-day committee meetings over the course of the project and to provide project guidance as necessary. Committee meetings were organized according to First Nations cultural protocol and Elders presided over traditional prayers. Together the advisory committee identified health concerns and discussed related health issues. Major areas of concern identified by the Advisory Committee members included children's health (including Foetal Alcohol Syndrome), mental health, injuries, HIV/AIDS, Hepatitis C, cancer, diabetes, cardiovascular disease, respiratory disease, teen pregnancy and pregnancy-related issues.

An Alberta Health and Wellness project team, with expertise in epidemiology and population health specific to Aboriginal peoples, followed the guidance of the advisory committee to produce the final report.

To ensure the success and acceptance of this project, presentations highlighting information from this report were given to members of the First Nations community. Information about emergency room visits and physician visits for mental and respiratory health were presented to the Treaty 7 Tribal Council at a health forum in Calgary, Alberta, on March 14, 2002. The same information was presented to the Alberta Chiefs Assembly Spring Summit in Edmonton, Alberta, on April 25, 2002.

Limitations

The project team was able to address many of the topics originally deemed important by the advisory committee, but there were omissions. For example:

- it was not possible to address Foetal Alcohol Syndrome (FAS) because there is no uniform diagnostic criteria that could be used;
- the prevalence of hepatitis C was not available in the databases used for this study;
- HIV/AIDS was not addressed to protect privacy and confidentiality; and
- information on cancer was not included because the Alberta Cancer Board does not capture information on First Nations status and was therefore unable to share information.

Unique features

Database on CD

One unique feature of this report is that First Nations health service utilization data is made available for further analysis in an electronic database on an accompanying CD.

Indigenous Methods

A second unique feature of this report is that it includes information generated by an indigenous methodology employed with the Elders and other members of the advisory committee.

This information coincides with the oral tradition and respects indigenous ways of knowing. The comments from the advisory committee members reflect the traditional knowledge based not only upon their lived experiences but also upon that of their ancestors. Consent to use information supplied by each person was obtained both verbally and in writing.

Methods

This chapter interprets the western scientific approach to knowledge, introduces an indigenous research methodology, and tells how a bicultural process was used to create the current report.

Quantitative Approach

A western scientific approach generally employs quantitative methods for the purpose of answering research questions. Quantitative methods rely upon measurements, counts, numbers and statistical analysis. The Health Surveillance Branch of Alberta Health and Wellness embodies this approach. The branch analysts have access to data about the health services provided to the entire population of Alberta. For the First Nations Health Service Study, they extracted health service utilization data on all First Nations people and on a matched control group. They tabulated, counted, and analyzed in order to uncover patterns and trends.

Technical Details

A number of electronic databases, under the custodianship of Alberta Health and Wellness, were accessed for this project. They include:

- Alberta Health Care Insurance Plan (AHCIP) registry, which contains registration and demographic information,
- Hospital Morbidity file, which contains information on each hospitalization in Alberta,
- Ambulatory Care Classification System, which includes information on each visit to an Emergency Room in Alberta, and
- Fee-for-Service Claims database, which contains information on each service provided by a registered health care provider in Alberta. Physicians provide most of these services.

The protocol consisted of the following steps:

- separating out individuals with First Nations Treaty Status;
- selecting an age, sex, and geographically matched sample of non-First Nations Albertans;
- retrieving all hospitalization records, emergency room visit records, and fee-for-service physician claim records for both groups to be used as health indicators for the calendar year 2000;
- choosing/constructing disease categories and age and sex categories by which to tabulate these indicators; and
- choosing measures to calculate and report.

Further technical details are provided in the documentation section of the electronic database.

Lived Experience

In this process, however, the concrete lived experiences of individuals who have needed health care services in physicians' offices, emergency departments, or hospital settings were lost. An advisory committee member reminded us of this in our first meeting by saying "each and every death we take personally…" (Ruth Morin, October 22, 2001). With this in mind we have tried to take special care in presenting statistical information in this report. Every person behind every number deserves to be taken personally. Every personal injury and every person with a disease should enable us to recommit to the work of improving the health of First Nations peoples.

Therefore, this report represents a melding of quantitative methods with the qualitative methods of an indigenous research methodology. Qualitative methods begin with the recording of the spoken word, often in highly structured settings such as focus groups and interviews. The indigenous methodology is primarily based on oral tradition passed from generation to generation. Knowledge becomes available from a wider range of sources including talking circles and ceremonies, dreams, and visions unique to aboriginal culture.

An Indigenous Methodology

Indigenous methodology operates within a holistic framework that allows the world to be viewed through lenses that are different from the western scientific approach. It attempts to encompass lived experience, the ancestral knowledge embedded in the mind, body, and spirit of indigenous peoples. This is difficult to express adequately in words. If we consider an indigenous research methodology to be a framework from which we view the world, then indigenous research methods are tools we use to find answers to our questions. Two indigenous research methods in particular – the talking circle and the interpretation of dreams – figured prominently in the advisory committee's attempts to link the richness of the indigenous ways of knowing with the western scientific paradigm.

Indigenous methodologies were used to obtain support, understanding, and cooperation needed to complete this project with Aboriginal and non-Aboriginal people. First, a cultural protocol was presented to each Elder to enable good working relationships for understanding and cooperation. Everyone at the advisory committee meetings was given an opportunity to speak and be heard in the talking circle; a component of the oral tradition of indigenous peoples.

A Bicultural Process

At times, statistics presented in meetings seemed surreal to the Elders. The use of the English language was also a concern for many because it was not their first language. One Elder expressed these communication difficulties by saying "You need to come and visit our community to see the real issues, to actually see the reality 'cause words cannot make it real…" (Francois Auger, October 22, 2001). Despite these difficulties, a joint understanding of patterns and trends was slowly achieved.

An interesting occurrence happened prior to the second advisory committee meeting. It involved communication with the subconscious mind through a dream, an indigenous research method. The "intelligent non-physical part of a person," the spirit, can be communicated with in dreams and in ceremony.[46] It is the belief of Cree people that each person has a gift, a spiritual gift to use for the common good. Dreams are an indigenous way of knowing, and they can be interpreted in many ways. Although one may receive a message and interpret it, it does not necessarily mean that the situation is static, because we all have the power to change things.

> *In my dream, I saw the path where two tractor-size wheels had penetrated a muddy road. Like the two tractor-wheel paths that were in the mud, it came to pass that everyone present at the meeting positioned themselves mostly along two sides of the rectangular shaped tables. First Nations people sat along the east side, government people sat along the west side. It seemed to create a feeling of "us and them," and one of our committee members drew attention to the seating. The positioning was entirely unintentional. The dream helped me to understand that to engage in a bicultural process there needs to be more cohesiveness among people and an openness of spirit. By the last talking circle at the third meeting, we had made progress toward that goal.* (Josie Cardinal, February 19, 2002)

The following are comments provided by the advisory committee members at the third meeting on the process used.

> *The circle is a bond that people can trust. In my tradition if I don't understand a person the first time; maybe we need to be more open with one another in a circle and build that trust, respect, without judgement. We all have different ways of knowing. You got to have humour to be open; to have that respect.* (Denys Auger, April 23, 2002)

In our way of communicating most of the time we think Aboriginal but we have to speak English. We have to interpret what we're going to say in our communication. One thing that we have to work on is to understand one another. We understand [well] because we use our language. This is where we learn. I am happy that we've been asked to give our opinion and have offered our advice, now we're going to have a better understanding between Aboriginal people and non-Aboriginal people. (Frank Daniels, April 23, 2002)

The process has taught me a lot. The Elders are telling us that the values, culture, and spirituality are important. These ideas need to be reintroduced as valuable and the community needs the strength to look after the Elders to get those concepts back. (Kathy Cardinal, April 23, 2002)

I've spent 29 years working with First Nations people and there have been many improvements. Twenty-nine years ago we would not have been sitting here in a circle, there would be a square table with non-Aboriginal people making the decisions. We've made fairly good progress. It helps that when we talk to one another, we see each other. We connect with each other, and if we see ourselves as part of a larger family, then we are able to give voice to those issues that are important in our lives. (Marion Perrin, April 23, 2002)

Fortunately, we have been able to record in writing the stories shared about health and healing. This report contains some of them. These stories are important and relevant providing a context that captures the experience of Aboriginal peoples.

A Bicultural Product

The bicultural process was a significant component of the study. It was intended to build a bridge between those who use a western scientific approach and those who are accustomed to indigenous ways of knowing. This was the first time that some had been able to experience a close working relationship with native people and it was also the first time that some native people had this type of relationship in the health sector. We believe we established a symbiotic working relationship amongst advisory committee members. In a reflection of statements made by Michael E. Bird, the immediate past president of the American Public Health Association, we are "bring[ing] together the data and the political process with [integrity,] wisdom and heart."[19]

Preview

In each of the chapters that follow, a single general health concern is presented and placed into a context consisting of:

- existing knowledge derived from a western scientific perspective;
- quantitative data specific to Alberta and First Nations people living in Alberta; and
- lived experiences collected from an indigenous perspective.

Demographic and Epidemiological Transitions Within the First Nations Population

This chapter presents demographic features and broad health utilization patterns of the First Nations population living in Alberta. Possible explanations from the western scientific approach related to the demographic and epidemiological transitions are offered. Then the Aboriginal traditional belief that life spans were longer in the past, and health was better, are examined.

A Demographic Transition

Overall, the human population is ageing as more people are living to older ages and fewer children are being born. These two trends, decreasing mortality and decreasing fertility, are occurring at different rates in different human groups. When they occur together, the population is said to be experiencing a demographic transition. Is the First Nation population living in Alberta experiencing a demographic transition?

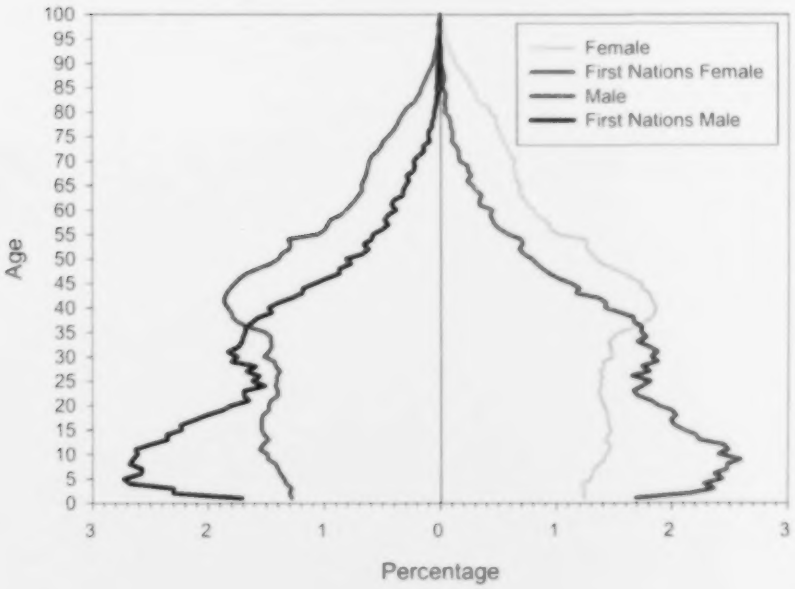
Population Structure

At mid-year 2000, First Nations people[1] accounted for 3.8 per cent of Alberta's population or 112,792 individuals. This compares to a total of 2,855,029 non-First Nations people in Alberta.

[1] This number includes all individuals with status under the *Indian Act* of Canada, with a current address in Alberta regardless of whether they are registered to a specific nation in Alberta.

Figure 3.1 shows age and sex structures of First Nations people and non-First Nations people in Alberta in the year 2000.

Figure 3.1 Age Distributions, First Nations and Non-First Nations Individuals, Alberta, 2000



At first glance, the First Nations population structure resembles a pyramid while the structure of the non-First Nations population is more rectangular (with a slight bulge for 'Baby Boomers' now in their 40s).

The First Nations group is clearly younger, with relatively fewer Elders. Elders are revered and are in high demand because they have the important task of passing on traditional knowledge to young people. If an Elder[11] is considered to be over 50 years of age and a youth to be 25 or under, then the ratio of youth to Elders is 5.0 to 1. The general population has a higher concentration of elderly people and a lower concentration of youth. If we consider the same criteria for elderly and youth in the general population, that ratio is 1.4 to 1.

According to Jackes,[27] a demographic transition with decreasing mortality and fertility would be characterized by a shift in which "The 'population pyramid' with many young and fewer elderly individuals,

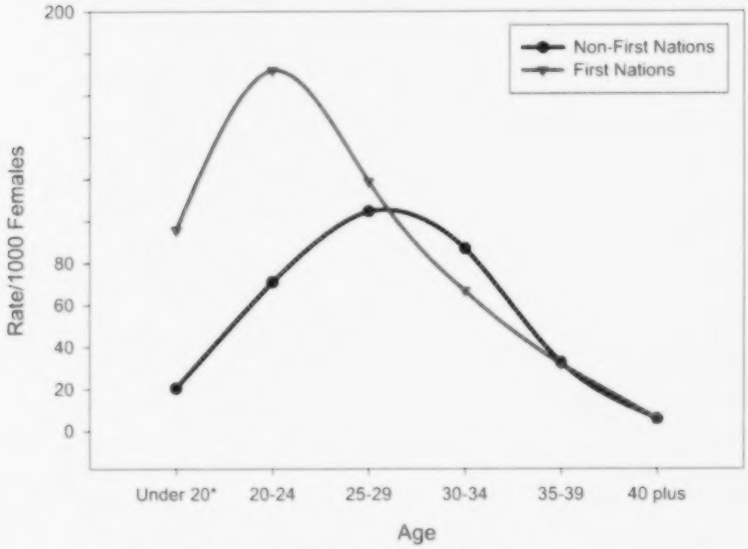
[11] In this situation we used age as a descriptor for the term Elder. Those who are elderly are considered Elders but there are differences between those who are Elders and those who are considered spiritual Elders. The difference is that spiritual Elders are also leaders of Aboriginal cultural and traditional practices.

would become a 'population rectangle'."[27] That is, if First Nations people were in a demographic transition, over time, the population structure would come to resemble the current non-First Nations population structure.

Fertility

The structure of the First Nations population can be attributed in part to high fertility. First Nations females are more likely to give birth at younger ages than females of the general population, at least until the age of 30. Hospital births in 1999/2000 were analyzed to provide age specific fertility rates for childbearing females. Figure 3.2 illustrates these rates.

Figure 3.2 Age Specific Fertility Rate, Hospital Births, Alberta 1999/2000*



* Births recorded in the Hospital Morbidity Database where the patient ID matched the Alberta Health and Wellness Registry file. This is an under-estimate of the total births to Alberta residents - particularly for age under 20.

First Nations females less than 20 years of age are 4.7 times more likely to give birth than females of the same age in the general population. In the 20 to 24 year old age category, this ratio declines to 2.4. By ages 25 to 29, the rates are approximately equal in the two populations.

Summing the age-specific fertility rates results in a total fertility rate (TFR) that summarizes the expected childbearing experience of a female over her lifetime. In Alberta in 1999/2000, the total fertility rate was 2.5 children per First Nations females, compared to 1.6 children for females in the general population.

According to Young,[50] the evidence suggests both populations have declining fertility: "In the late 1960s, the TFR for all Canadians was 2.5 children per woman, compared to 6.1 for Canadian Indians, and 9.2 for Inuit. By the early 1980s, the TFR in all three groups had declined to 1.7 for all Canadian women, and more drastically, to 3.1 and 4.1 among Indians and Inuit, respectively.[50]

Mortality

Unfortunately, a discussion of mortality patterns among First Nations people is not possible given the current practices in registering vital events in Alberta. Ethnic status is not currently collected by Alberta Vital Statistics. Further, information that might allow a linkage to ethnic information (such as Alberta Health Care Insurance Plan personal health number) is also not recorded by Alberta Vital Statistics.

Elsewhere, there has been a limited amount of analysis of the mortality of First Nations people in Canada. Trovato[50] used data sources from Statistics Canada and Health Canada from period 1951 to the mid-1980s to suggest the mortality rate was decreasing.

While evidence is limited, it does suggest First Nations people in Alberta are at the beginning stages of a demographic transition.

Epidemiological Transition

As a population undergoes a demographic transition, it also experiences a shift in its characteristic patterns of disease. Omran[36] believed this pattern was unchanging and labelled it the 'epidemiological transition'. Omran described the epidemiological transition as a shift away from diseases of famine and pestilence to receding pandemics to an age of degenerative and man-made diseases. More specifically, as the incidence of infectious diseases decreases, there are successive increases in the prevalence of trauma or injury, diabetes, coronary heart disease, and cancer. It is unclear to what extent First Nations in Alberta may be undergoing an epidemiological transition.

Broad Patterns of Health Utilization

Figure 3.3 shows the use of health care services among First Nations people and matched non-First Nations controls in Alberta in 2000. Figure 3.4 presents this information as rate ratios to emphasize differences between the populations.

Figure 3.3 Services by Source and International Classification of Diseases (ICD-9-CM) Chapter, First Nations and Matched Controls, Alberta, 2000

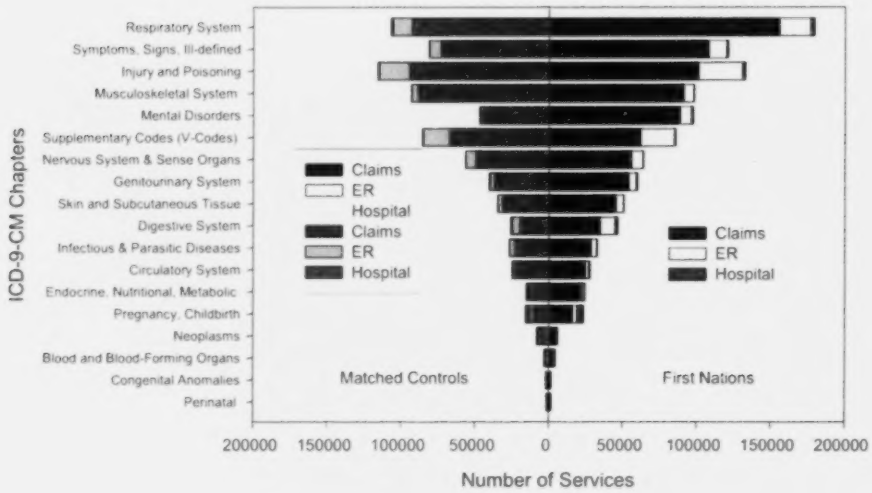
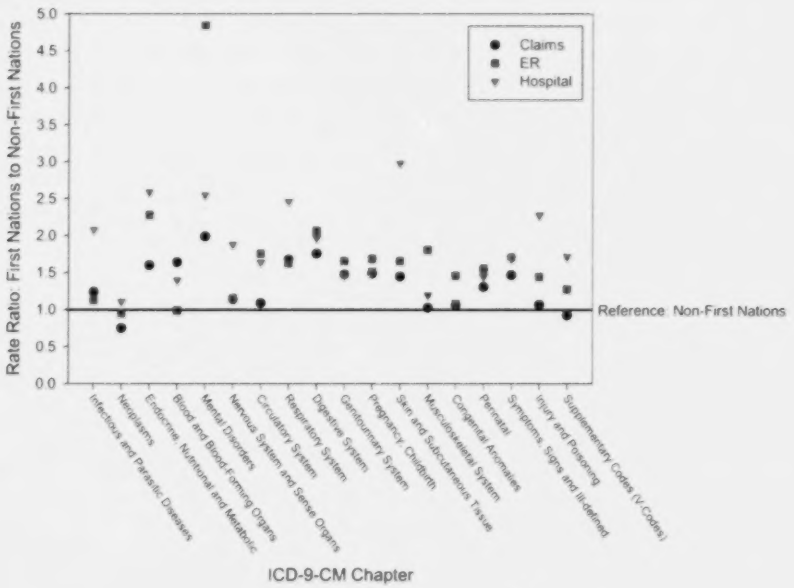


Figure 3.4 Rate Ratios for Services by ICD-9-CM Chapter, First Nations and Matched Controls, Alberta 2000



Taken together, these figures show the First Nations population is more prone to injuries, diabetes, mental health problems, respiratory disease, and certain health problems among children. At present there is more ischaemic heart disease among First Nations people, and similar levels of hypertension. Also, there are proportionally fewer First Nations people treated for cancer in comparison to the general population. This pattern is consistent with the disease patterns postulated to underlie the epidemiological transition.

On-going data collection is required to determine definitively whether the health of First Nations people is improving and whether the pattern of disease is shifting.

A Problem?

It is generally believed the human life span has increased as human culture has evolved.[40] The theory surrounding the epidemiological transition may be read to imply the transition moves from primitive towards civilized. Such beliefs may subtly influence word choice within demographic discussions. For example, Young[50] suggests the Native American population of both Canada and the United States "fall under the contemporary delayed model, among other countries of the Third World".[50]

However, it is a strong traditional belief of Aboriginal Elders that the situation for First Nations people, with respect to longevity and health, was considerably better in the past than it is now. This is an important issue because it speaks to the viability of a return to traditional lifestyles as a way of improving health.

> *The Aboriginal community has been hit very hard. Before those things [residential schools and multigenerational trauma] happened, we had a very strong community. Our cultural beliefs were very strong. If there was anything wrong in our communities, they would go to the Elders. We were told to develop our mind, body, and spirit. We were mentally strong, physically strong, and spiritually strong. We were very strong. We didn't have the problems we have today. But what is important is what the elder told us and that is to keep our mind clear to be strong, and to keep our body in good shape. Respect it. Look after it. Keep your spirituality alive. Look after your spirit each day. Most of these things are forgotten. Drugs are used. Now our people have developed certain disorders.*
> (Isabel Auger, February 19, 2002)

Has First Nations Life Span Changed?

In earliest times, the average life span was approximately 18 years of age, due primarily to very high rates of childhood mortality. From about 1000 B.C. to 1900 A.D., life expectancy increased to approximately 46 years of age. From 1900 to 1950, life span increased to 72 years of age in developed countries.[40]

An increased life expectancy is an indicator of progress. Over the last five decades in developing countries, there has been an increase in life expectancy.[35] Nevertheless, the U.S. Burden of Disease and Injury study[35] conducted by the Harvard School of Public Health found staggering disparities by race within the United States. The lowest life expectancy at birth was for American Indian males in various counties in South Dakota whose life expectancy was 56.5 years. In contrast, the highest life expectancy was for Asian females in New Jersey with a life expectancy at birth of 97.7 years and includes American Indian or Alaskan Natives in Los Angeles County with a life expectancy at birth of 97.8. There was a 41-year age difference between the longest (Asian females) and shortest (Native American men) living.

Early Birth Records Are Unreliable

Before Alberta became a province in 1905, birth dates may not always have been recorded accurately in vital event records for First Nations people. Often the date of a baptism ceremony was interpreted as a date of birth, and some First Nations people were baptized at relatively advanced ages.

Incomplete Anthropological Evidence

One alternative to relying exclusively on birth records is paleodemographic evidence. "Paleodemographic studies based on human skeletal remains excavated by anthropologists and archaeologists seek to reconstruct basic biological and social facts of human life in the past—population structure, life expectancy, and mortality and fertility rates."[26] Earlier studies could not accurately estimate the age of adult human skeletons. Even today, one cannot be completely accurate in determining how long people actually lived. However, the most reliable method to determine age is by cross sectioning the roots of a human tooth to examine it.[26] Political, ethical, and cultural issues associated with archaeological excavations on Aboriginal burial grounds have prevented much of this type of work in the past three decades. Thus, there is a lack of data on the historical longevity of First Nations peoples.

Jackes[27-29] has given extensive arguments on Aboriginal life expectancy to the effect that:

- life expectancy was higher in past than previously thought due to flawed estimation techniques;
- fertility estimates were too high since they do not consider long periods of lactation and sexual abstinence; and
- infant mortality rate estimates were therefore too high.

The Effect of Contact

It is difficult to even know how many Aboriginal people were living in Canada or North America prior to contact by Europeans. Various estimates have been provided as to the North American Aboriginal population ranging from one million to twelve million people.[50]

Young[50] describes the recent population increase among First Nations people as "population recovery". Whether it is an increase or a recovery is difficult to determine. However, it is generally accepted that the decrease in First Nations population was substantial after colonization of North America.

Summary

Many Aboriginal and non-Aboriginal people view the past as a time when Aboriginal people were healthier because they were living off the land and in accordance with their traditional practices. It is believed that Aboriginal people lived long, healthy, robust lives because there was very little disease or infirmity responsible for reducing their life expectancy.

With the advent of infectious diseases and having experienced a rapid change in lifestyle, Aboriginal people are experiencing transitions in demography and epidemiology as suggested by the literature and the data presented here. Science may continue to shed light on the hypothesis that Aboriginal people were healthier and lived longer lives in the past than they do presently.

Mental Health Among First Nations People in Alberta

This chapter introduces concepts of mental health and illness, describes how mental illnesses are diagnosed, and presents a profile of mental health services provided to First Nations people. Then the Aboriginal perspective on mental health within a holistic view of health is presented. The challenges of using this holistic view for positive change are discussed.

Mental Health Problems and Mental Illness

Mental health problems are defined as, "psychological and emotional reactions or behaviours outside the usual range, experienced by people in their daily lives and that cause distress to themselves or others."[14] They are not so severe that the person affected is unable to conduct daily activities.

On the other hand, mental illness is defined as, "a clinically significant behavioural or psychological syndrome or pattern that occurs in a person and is associated with present distress (e.g. a painful symptom) or disability (i.e. impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom".[15]

Mental Illness Classifications

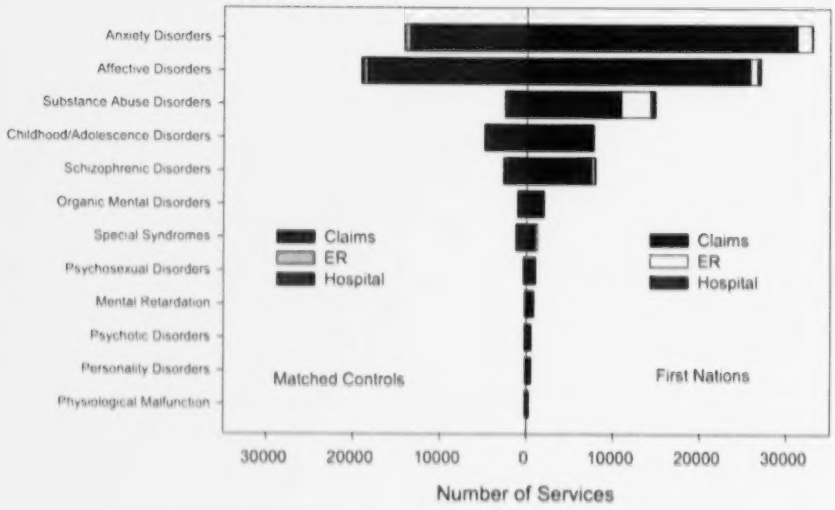
The *Diagnostic and Statistical Manual* – 4th edition (DSM-IV), developed by the American Psychiatric Association, is used to clinically classify mental disorders among individuals in North America. Major disorders in DSM-IV include mood disorders, schizophrenia, and other psychotic disorders, anxiety disorders, substance use disorders, conduct disorders, personality disorders, and dementias. The *International Classification of Diseases* (ICD-9-CM), developed by the World Health Organization, is used to classify all diagnoses (including those for mental disorders) for hospitalizations, emergency room visits, and physician contacts. In Canada, the ICD system is used for official reporting. Thus, data reported in the present study is classified according to ICD-9-CM. The services reported do not include services provided on reserve by Health Canada, but do include physician contacts, hospitalizations, and emergency room visits.

ICD-9-CM codes were grouped according to a sub-classification developed in consultation with psychiatric epidemiologists and were previously utilized in an examination of Alberta's mental health services.[39] Data in the categories anxiety disorders, affective disorders (depression), and substance abuse are presented in greater detail in subsequent pages.

General Pattern

Figure 4.1 shows that in the year 2000, First Nations people sought health care services for most forms of mental disorders at higher rates than did the matched non-First Nations control group. This applies to all types of services: physician claims, emergency room visits, and hospital admissions.

Figure 4.1 Mental Disorder Services by Source and Diagnostic Grouping First Nations and Matched Controls, Alberta, 2000



Within First Nations people, the main reasons for physician visits were anxiety, affective disorders (depression), substance abuse disorders, childhood/adolescence disorders, and schizophrenia.

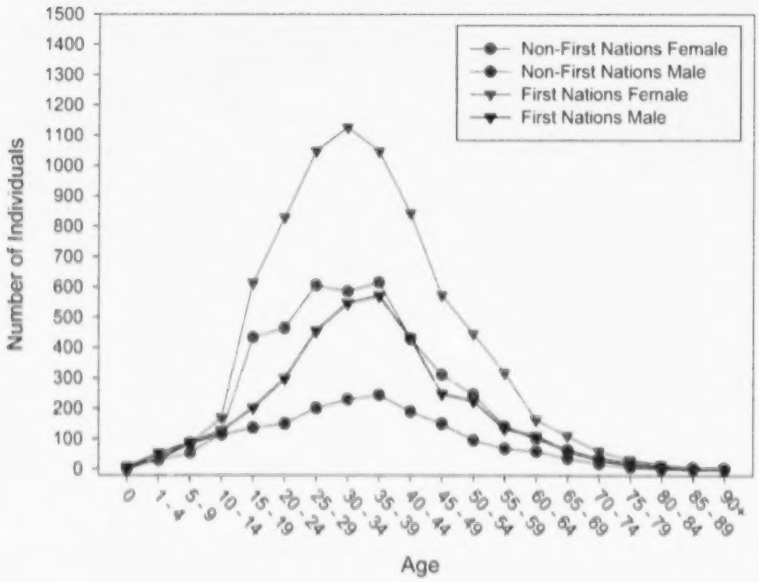
There were a large number of emergency room visits for substance abuse disorders, anxiety, and affective disorders. First Nations people often went to the hospital when they needed help for substance abuse disorders and affective disorders.

The pattern for the control group was different. The leading cause for physician visits was affective disorders (depression) followed by anxiety disorders, childhood and adolescence disorders, schizophrenia, and then substance abuse disorders.

Anxiety Disorders

Figure 4.2 shows in the year 2000, First Nations people were 2.5 times more likely to present at a physician's office for anxiety. Gender differences in treatment for anxiety between both population groups were evident in all but the youngest age groups. Females were more likely than males to be treated.

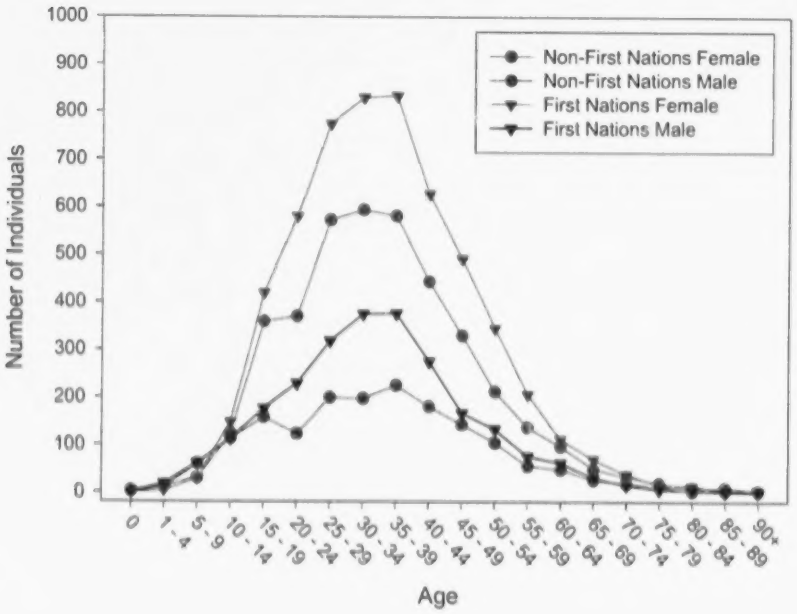
Figure 4.2 Anxiety Disorders
Individuals with One of More Physician Visits
First Nations and Matched Controls, Alberta, 2000



Affective Disorders

Figure 4.3 shows in the year 2000, the First Nations group was 1.4 times more likely to present for treatment of an affective disorder (depression) at a physician's office than the matched control group. Again, females were much more likely to be affected in all age groups other than those less than age 14 or over 80.

Figure 4.3 Affective Disorders
Individuals with One or More Physician Visits
First Nations and Matched Controls, Alberta, 2000

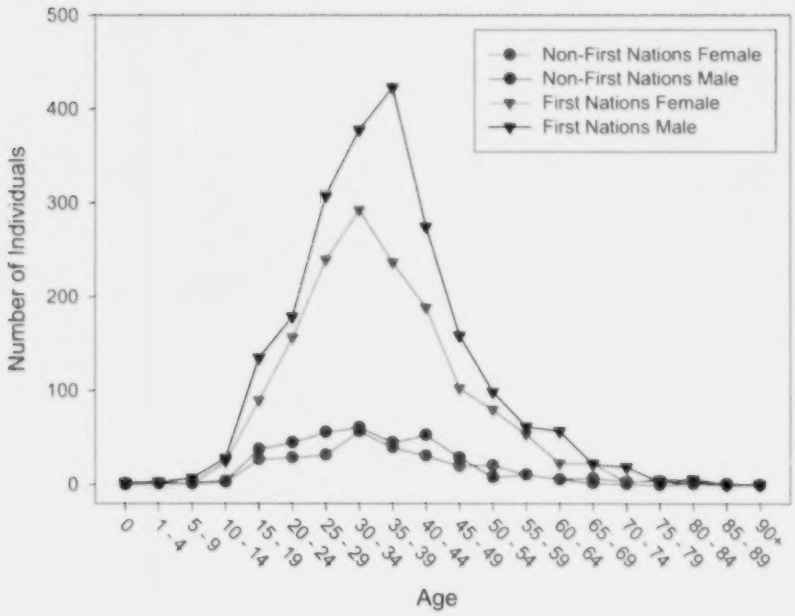


Substance Abuse Disorders

As shown in Figure 4.4, First Nations individuals were seven times more likely to present to a physician's office for a substance abuse issue. In part, these high numbers may be accounted for by a requirement to obtain a medical examination from a physician in order to enter a 28-day addiction treatment program run by Alberta Alcohol and Drug Abuse Commission (AADAC).

In general, males tend to seek treatment for substance abuse issues more often than females and these rates peak in the 30 to 39 year age groups.

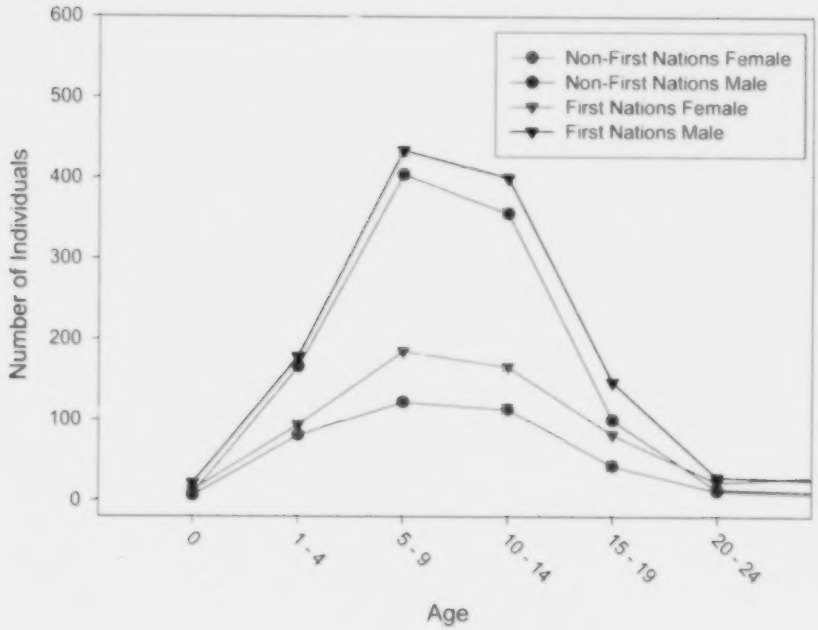
Figure 4.4 Substance Abuse
Individuals with One or More Physician Visits
First Nations and Matched Controls, Alberta, 2000



Childhood and Adolescent Disorders

Figure 4.5 shows First Nations children and adolescents were about 1.6 times more likely to visit a physician's office for a mental disorder, with males seeking treatment more often than females. Males in both the First Nations and control group were treated more often than females.

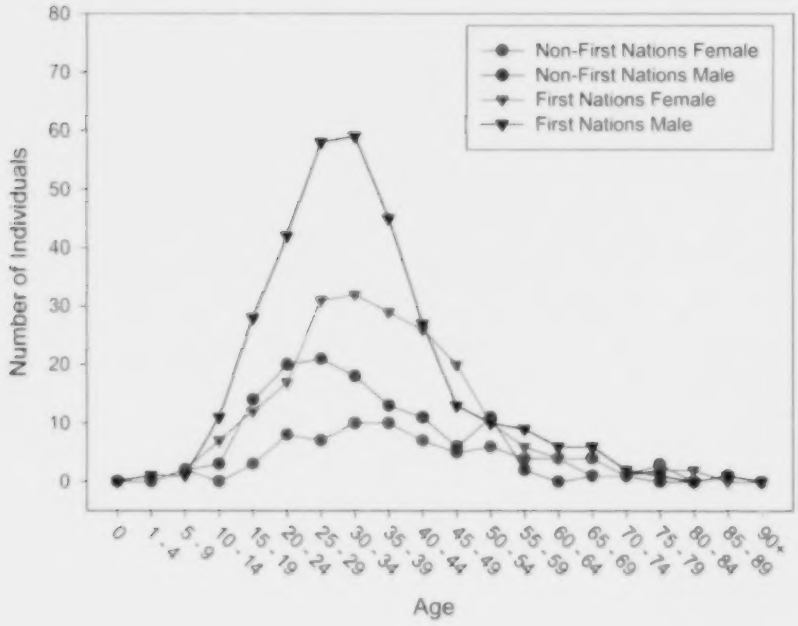
Figure 4.5 Childhood/Adolescent Disorders
Individuals with One or More Physician Visits
First Nations and Matched Controls, Alberta, 2000



Schizophrenic Disorders

Figure 4.6 shows First Nations people are 2.9 times more likely to go to a physician's office for treatment of schizophrenia. Schizophrenia was more prevalent among First Nations males than First Nations females.

Figure 4.6 Schizophrenic Disorders
Individuals with One or More Physician Visits
First Nations and Matched Controls, Alberta, 2000



Other Disorders

There were no differences between First Nations people and the control population for mental disorders labelled organic, personality related, special syndromes, psychosexual disorders, mental retardation, other psychotic, or physiological mental disorders.

Mental Health Treatment Centres and Mental Health Clinics

Mental health clinics provide assessment, treatment, and referral services to adults and children who are experiencing psychiatric, psychological, and emotional difficulties. Through 2002, the Alberta Mental Health Board (AMHB) provided mental health services in the province's regional health authorities. These services include management of four residential psychiatric treatment centres (Alberta Hospital Edmonton, Alberta Hospital Ponoka, Raymond Care Centre, and Claresholm Care Centre). The AMHB also managed 77 full-time clinics, 81 part-time clinics, 32 travelling clinics, two hospitals, two care centres and 46 tele-mental health services.

Mental health services in Alberta have recently undergone reorganization. Regional health authorities have assumed responsibility for the delivery of mental health services.

The Alberta Mental Health Board provided information about the number and duration of episodes in psychiatric treatment centres and in mental health clinics for First Nations people and matched controls. Figure 4.7 shows First Nations people had three times more episodes in psychiatric treatment centres than the matched control group. The majority of these episodes lasted less than one week.

Figure 4.7 Inpatient Treatment Episodes, Initiated in 2000, in Psychiatric Treatment Centres, First Nations and Matched Controls, Alberta

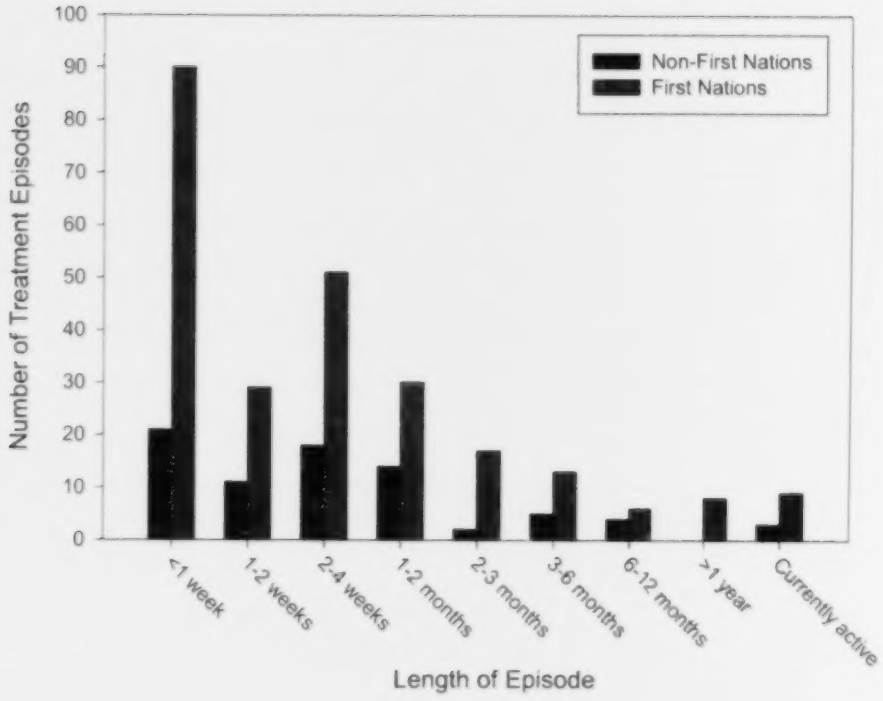
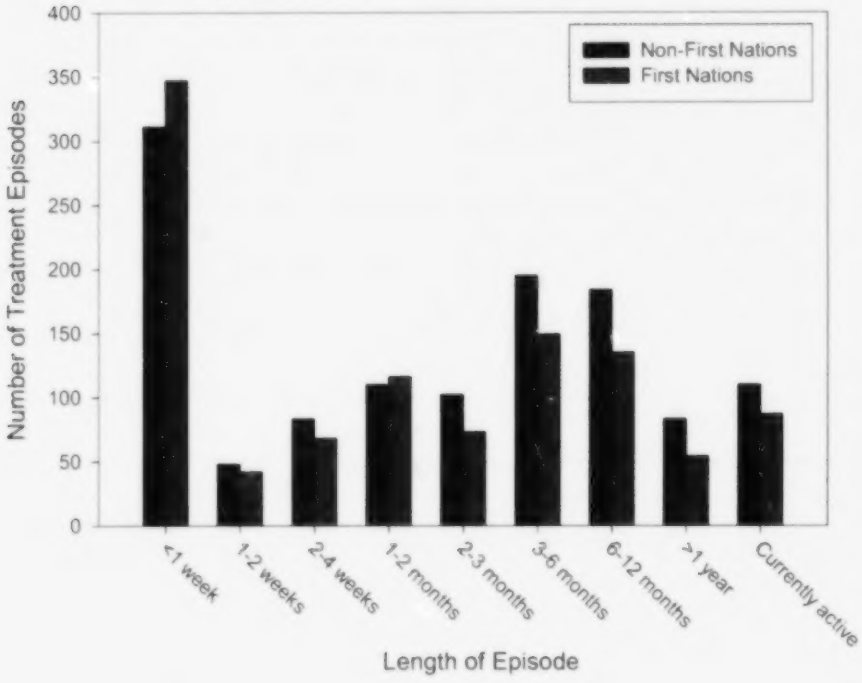


Figure 4.8 shows the matched control group had slightly more mental health clinic episodes than did First Nations people. It also shows the duration of the treatment episode was slightly shorter on average for First Nations people.

Figure 4.8 Mental Health Clinic Treatment Episodes, Initiated in 2000, First Nations and Matched Controls, Alberta



Why is There a Disparity?

Why would First Nations people have more episodes in psychiatric treatment centres and yet receive less outpatient services at mental health clinics? Possible explanations include:

- poor access to mental health clinics for First Nations people because of the location of these clinics relative to the location of reserves, especially in Northern Alberta;
- jurisdictional issues involving division of responsibility between federal and provincial authorities; and
- unavailability of culturally sensitive treatment programs potentially contributing to a lack of compliance to treatment.

The Alberta Mental Health Board is aware of these problems and is working to overcome them. Commencing in 2000, specific Aboriginal mental health services have been offered. Four goals have been identified:

- increase utilization of mental health services by Aboriginal people;
- raise awareness of mental health and reduce the stigma surrounding treatment amongst Aboriginal people;
- increase awareness of Aboriginal health and cultural issues for health care workers; and
- increase number of Aboriginal people employed in mental health care.

Many challenges remain:

> *One major challenge, addressing Aboriginal mental health needs in the current mental health system, is being able to balance the needs of diverse populations of Aboriginal clients accessing mental health. There are many cultural differences among Aboriginal groups in Alberta; there are a number of distinct Nations from a variety of geographic locations with specific languages, customs, and beliefs. Our goal is to find ways to address specific community needs wherever possible.* (Marty Landrie, October 31, 2002)

Issues of culturally sensitive treatment are being addressed. For example, an Aboriginal wellness worker at Alberta Hospital Edmonton who liaises with Aboriginal clients, families and communities, provides cultural support to clients. Alberta Hospital Edmonton has ceremonial facilities for clients, staff, and community members to use during spring and summer months. Opportunities for cultural ceremonies also exist in other facilities.

A Holistic Approach?

First Nations people consider health and wellness to be a state of balance between mind, body, spirit, and emotions. The state of the mind cannot be separated from the state of body, emotions, or spirit, as all are considered interconnected.

Still, the world around us has compartmentalized various aspects of the human being. As one of the advisory committee members stated:

> *With the western world's system, the body is claimed by the physician and there are laws around that, so no one is to assess the body. The mind is [separated into two fields] the intellectual [field is dominated] by professors. The mind also has an emotional [field that is addressed] by psychologists. There are also parameters set around spirituality [and that field has been under the domain of the] churches...We know as First Nations people what affects the mind also affects the spirit and body...The system looks at health from a sickness perspective whereas our people look at it from how well you are ... Let's work out a balance and use both cultures to work together.* (Jordan Head, February 19, 2002)

Another advisory committee member emphasized the process of addressing mental health as part of a holistic approach to addressing personal issues:

> *There is a human price today that is costly to First Nations [and that has to do with not following the culture and traditional ways]. My understanding is that individually you work on yourself, and if you don't help yourself first, you can't help another person. [In the native way] we don't give a drug to someone who is having a problem for loneliness. To try and forget about the problem is not the way to do it. Why give the people a pill if it will damage the mind, body, spirit?* (Isabel Auger, February 19, 2002)

One advisory committee member commented on the impact of addictions on the First Nations community:

> *Look at what is happening in our community. We have a liquor store and a referral van to take the people to see the doctors. They bring back pills – how can we as a community be healthy? The pills, the alcohol, and overcrowded homes explain in part why kids get into trouble although FAS [Foetal Alcohol Syndrome] may be part of the problem. If you want to see a healthy community, you will need to create a community program for families that explain more about each addiction and sickness while promoting good nutrition and exercise.* (Francois Auger, October 22, 2001)

Beyond Health Care Systems

Amongst other indigenous peoples, like Australian Aborigines, the concept of health is viewed from a very wide lens and "refers to the social, emotional, and cultural well-being of the whole community".[43] This wider view of health requires acceptance that "oppression, racialism, environmental circumstances, economical factors, stress, trauma, grief, cultural genocide, psychological processes, and ill health" impact the health of Aboriginal populations.[43]

The *Ottawa Charter for Health Promotion*[48] acknowledges that to improve one's health, the following must be considered: health care systems, health care structures, and the social, cultural, economic, and political environments.

For First Nations people, these broader determinants ought to be considered from a "past and present" perspective in order to reflect the lived experience of being a First Nations person.[12] This is because part of what differentiates the experiences of First Nations people is their experience of colonization and the multiple forms of abuse they have suffered through contact, domination, and resistance. J.W. Berry[8] lists the dominant negative forces as government institutions, residential schools, prejudice, education, the church, and the media.

Closing the Circle

The link between mental health and the full cultural milieu, past and the present, is well summarized by one Aboriginal Elder:

> *A lot of sicknesses come from the mind not just diet or smoke. We have to find a way to heal our people because this is important. A lot of people are lost. We don't even believe we can use our culture – we are lost. If we're going to work, let's find solutions as to how we can help each other...* (Pete Waskahat, October 22, 2001)

Injuries Among First Nations People In Alberta

Injuries can be devastating to individuals who may experience pain and suffering, disability or even death. The loss is also experienced collectively within family, community, and nation.

Definition

Injuries are "any damage sustained by the human body as a result of energy exchange" inclusive of mechanical, thermal, chemical, electrical or ionizing radiation.[50] For the purpose of this report, injuries refer primarily to those resulting in a health system contact.

Limitations

This report relies upon information about service utilization. Alberta Health and Wellness data systems provide hospitalization and emergency room data on First Nations people who have been injured and who used services off reserve.

While Alberta Vital Statistics collects information pertaining to death it does not collect information relating to ethnicity or Treaty status as part of the death registration process. Mortality statistics on injury related deaths among First Nations in Alberta may be available through the First Nations and Inuit Health Branch, Health Canada. Individual level data is generally not shared, though aggregate data has been shared in the past.

Injury Deaths

Injuries are "the number one cause of death" among Alberta First Nations people.[6] From 1983 to 1999, there were 1,975 injury deaths documented accounting for "39 per cent of all deaths for all causes among Alberta's First Nations people".[6]

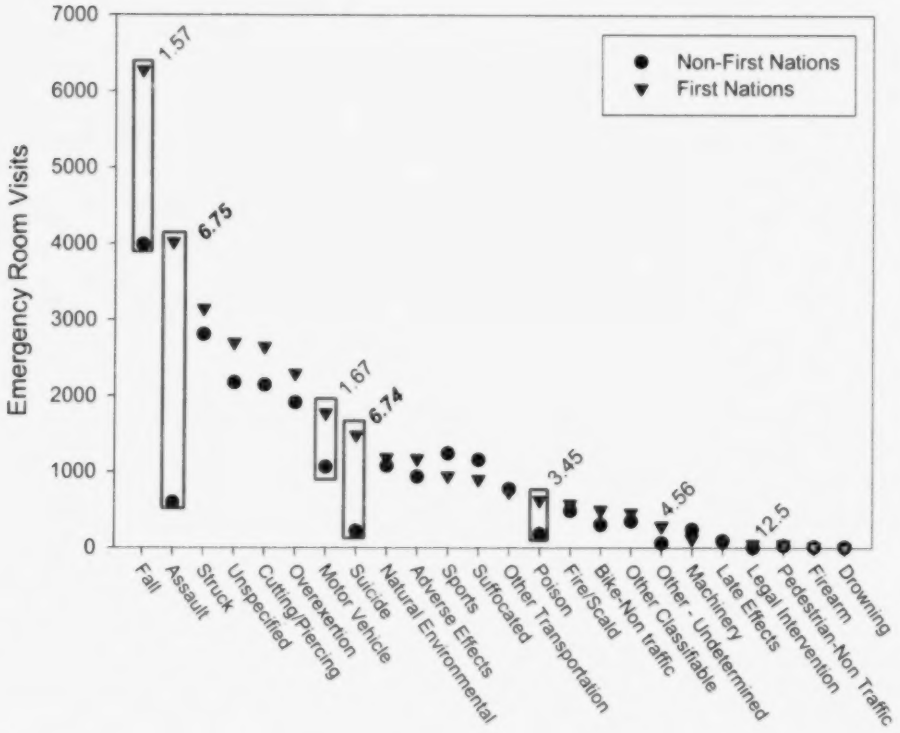
The three leading causes of injury death were motor vehicle collisions, suicide, and homicide.[6] Most injury deaths (82 per cent among males, 79 per cent among females) occurred at ages 44 years or less.[6] First Nations males, aged 15 to 44 years, had an injury related mortality rate twice that of females.[6]

Emergency Department Use

While data reported for mental health service utilization in the previous chapter focused on physician services, data presented here on injury is based upon emergency room contacts during the year 2000. Data at this level can be categorized by injury cause using the *International Classification of Diseases, 9th Revision* (ICD-9-CM E-Code).

In the year 2000, First Nations persons were more likely to receive treatment at an emergency department for virtually all injury types. Figure 5.1 presents detailed information about the number of individuals in each group, as well as the ratio of the rates for major types of injury.

Figure 5.1 Injury Cause
Number of Emergency Department Visits
First Nations and Matched Controls, Alberta, 2000
(Note: Statistically significant ($p<0.05$) rate ratios are outlined in red)

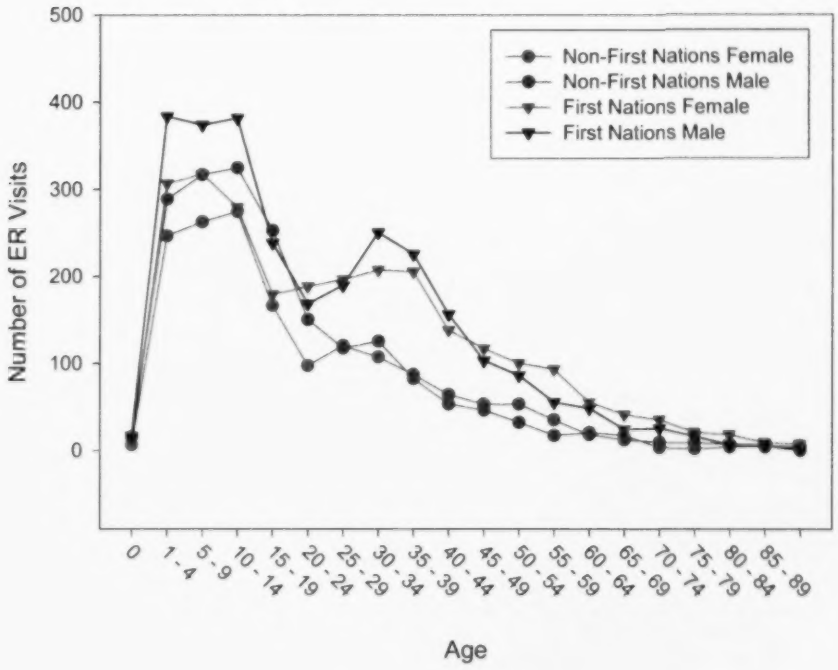


Falls account for the most emergency department visits in both groups, while assaults account for a large number of visits among First Nations persons.

Falls

Figure 5.2 presents information about emergency room visits for falls during the year 2000.

Figure 5.2 Falls
Number of Emergency Department Visits
First Nations and Matched Controls, Alberta, 2000

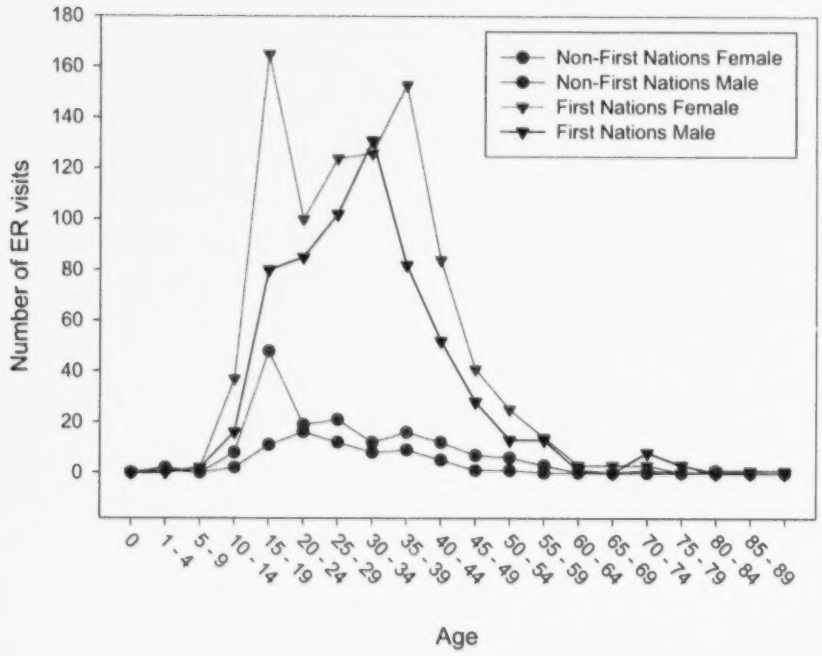


Children are more likely to be seen for the effects of falls – males more often than females and First Nation children more often than matched controls. By adulthood, the rates are similar for females and males although First Nations people are more likely to go to the emergency department for the effects of a fall.

Attempted Suicide

Figure 5.3 presents information about emergency room visits for suicide attempts during the year 2000.

Figure 5.3 Suicide Attempts
Number of Emergency Department Visits
First Nations and Matched Controls, Alberta, 2000

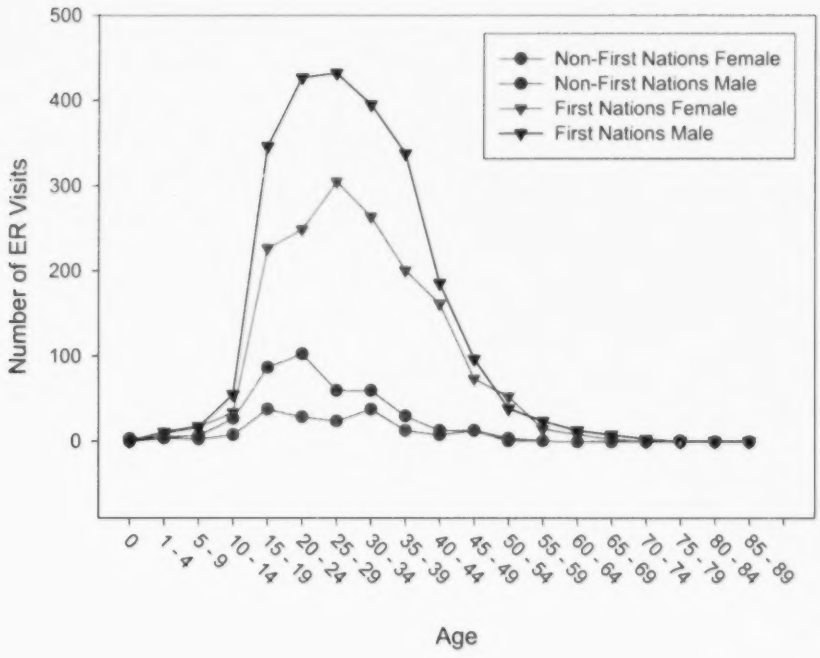


First Nations people are more likely to attempt suicide between ages 10 and 60 years. For matched controls, females have their highest number of attempts during the teen years. The number of attempts then drops to a consistent level. The peak for First Nations females also occurs in the teen years. However, the number of attempts remains high until the mid 40s. First Nation males have a rising pattern beginning in the teen years until their mid 30s when the number of attempts decreases.

Assault

Figure 5.4 presents information about emergency room visits for assaults during the year 2000.

Figure 5.4 Assault
Number of Emergency Department Visits
First Nations and Matched Controls, Alberta, 2000

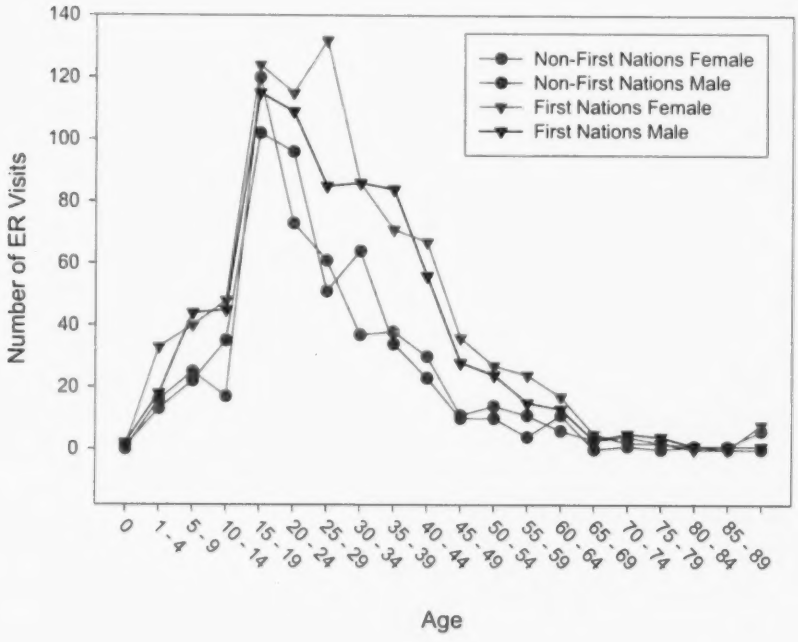


Overall, First Nations persons are 6.8 times more likely than matched controls to go to an emergency department for services related to assault. In both groups, males are more likely assaulted than females. While the number of assaults peaks in young adulthood in the matched controls, the number of individuals assaulted continues to increase in the First Nations group until about age 30. The gap in number of visits for assault between First Nations and the matched controls does not narrow until 55 years of age.

Motor Vehicle Collisions

Figure 5.5 presents information about emergency department visits for motor vehicle collisions during the year 2000.

Figure 5.5 Motor Vehicle Collisions
Number of Emergency Department Visits
First Nations and Matched Controls, Alberta, 2000

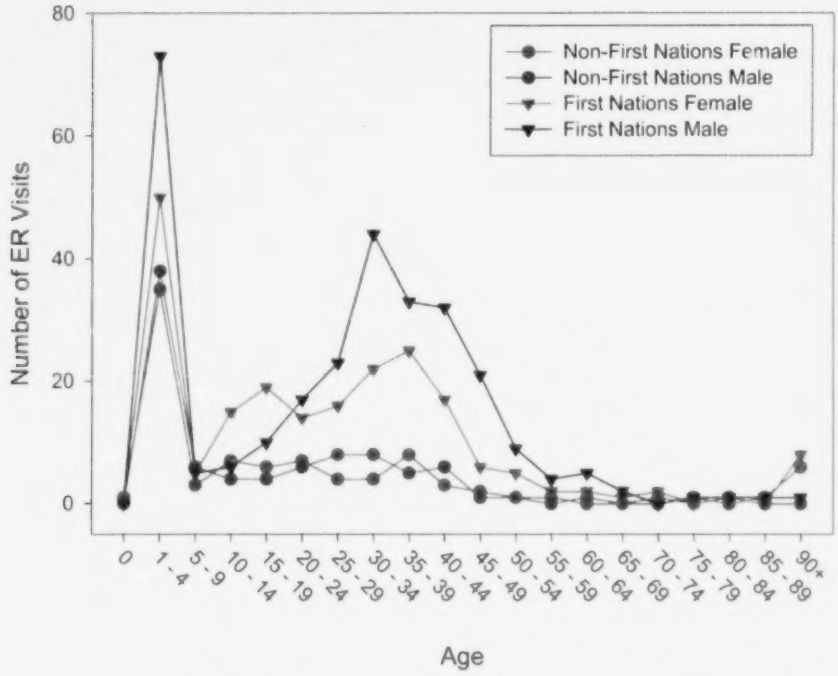


Young people between 15 to 19 years of age were more likely to go to an emergency room for a motor vehicle collision related injury, regardless of ethnicity. The number of emergency department visits remained high in the First Nations group and declined less rapidly as age increased. The higher levels among adults in the First Nations group may account for the higher levels among children, as their children are likely traveling as passengers.

Unintentional Poisoning

Figure 5.6 presents information about emergency department visits for unintentional poisoning during the year 2000.

Figure 5.6 Unintentional Poisoning
Number of Emergency Department Visits
First Nations and Matched Controls, Alberta, 2000



At all ages, the First Nations group had higher rates of emergency department visits than the matched control group for unintentional poisoning. The disparity is greatest for First Nations males in their early 30s, but is also high for First Nations females in young adulthood. This likely reflects the effects of drug overdoses, both prescription and non-prescription.

A Worldwide Crisis

Injuries have clearly reached crisis proportions among First Nations populations in Alberta. This is true for Aboriginal populations throughout the world.

Among the Maori of New Zealand injuries were the leading cause of death among those aged 1 to 34 years of age.[32] Unintentional injury accounted for 75 per cent of injury deaths, while suicide and assault accounted for 17 per cent and 7 per cent of deaths respectively.[32] The leading cause of death among Maori was motor vehicle collisions accounting for 49 per cent of all injury deaths.[32]

Among Native Americans and Australian Aborigines, injuries were the second leading cause of death next to heart disease.[42] Injury mortality rates were approximately two to three times greater among Native Americans and Australian Aborigines than rates for the general population in their respective countries.[42] Motor vehicle deaths accounted for almost half of the deaths due to injury for Native Americans and Australian Aborigines.[42] Suicide rates were higher for Native Americans (15.5 per 100,000) than for Australian Aboriginals (11.1 per 100,000).[42] Stevenson *et al.*,[42] state that firearms were used as a method of suicide twice as often among Native Americans compared to Australian Aborigines.[42] Nearly two-thirds of Australian Aboriginals committed suicide by hanging.[42] Between both groups, mortality rates were higher for males than for females.[42]

Among Native American youth, the leading causes of hospitalizations were due to motor vehicle collisions, followed by falls and poisoning.[31] One in every eight admissions to hospital among Maori people was due to injury.[11] Injuries were the leading cause of admission among Maori aged 5 to 44 years and 85 per cent of all injuries were listed as unintentional injury.[11] Falls were the leading cause of hospital admissions among Maori (23 per cent) followed by motor vehicle collisions (20 per cent).[11]

A Cycle of Crisis

Injuries contribute to a 'cycle of crisis', an ongoing and unbroken stream of grief, especially related to intentional injuries.[6] Injuries lead to a period of silence and shock resulting in a sense of apathy and unhealthy coping mechanisms. These behaviours may include substance abuse, violent behaviour and lawless or risk-taking behaviour among youth.

Injury Prevention

This 'cycle of crisis' in turn hinders injury prevention activities and contributes to further injuries. In fact, very little focused injury-prevention activities have occurred within First Nations communities.

The challenge is clear. Injury prevention activities must be increased in the First Nations population. The special circumstances of the cycle of crisis argue for a holistic and culturally sensitive approach.

An advisory committee Elder lamented the cycle of crisis and its effect on the youth:

> *Our communities are in a state of crisis. Our children are getting into a lot of trouble because they are idle. We have to look for answers especially for our youth today. They feel that nobody is listening to them. We are trying to help them search for their identity. There's a lack of programs and facilities.* (Sykes Powderface, Oct 22, 2001)

The cultural oppression experienced by First Nations people has impacted individuals, families, communities, and Canada. People are impacted physically, emotionally, intellectually, and spiritually. In addition, there is a great financial burden placed upon individuals, families, communities, and the health care system.

Diabetes Mellitus Among First Nations People in Alberta: The Past and the Present

What is Diabetes?

Diabetes mellitus is a serious chronic disease that occurs when an excess amount of glucose is present in the blood.[44] It is considered a major public health disorder because many people have it, it may be preventable, and it promotes fear.[34] This disease can be debilitating and can reduce life expectancy.

The most common form of diabetes is type 2 in which the body does not fully utilize the insulin produced by the pancreas. Type 2 diabetes is most predominant among adults, however teenagers and children are also being diagnosed with this disease.

Risk Factors

While there is a genetic predisposition to diabetes, there are many predominant behavioural risk factors for type 2 diabetes including general obesity, upper trunk obesity, lack of physical activity, poor diet, alcohol consumption, and psychosocial stress.[38]

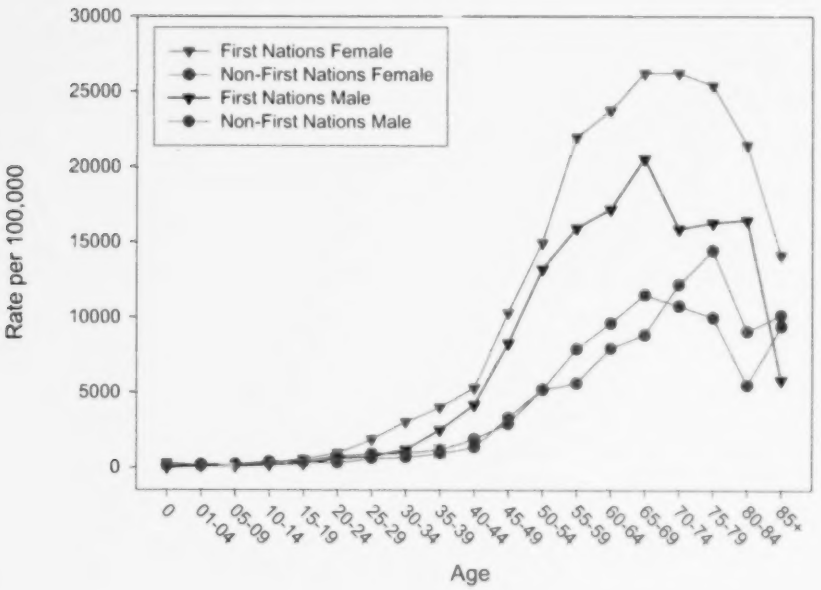
Although obesity is a risk factor, not all people with type 2 diabetes are obese. When obesity is associated with aging, the risks of developing type 2 diabetes are greater.[44] Body fat patterning, particularly in the upper trunk and intra-abdominal fat, is significantly correlated with type 2 diabetes.[44] Sudden massive weight gain during pregnancy is also a risk factor. A pregnant female who develops type 2 diabetes during her pregnancy has a 50 per cent chance her child will develop this disease.

There is also growing interest in psychoneuroimmunology, the study of how emotions affect the physical body among people with diabetes. The study of psychoneuroimmunology would contribute to the concept of assessing health holistically.

Health Services Utilization

Figure 6.1 shows the age-sex specific one-year treated prevalence rates (proportion of people with one or more diabetes-related services in 2000) for the First Nations and matched control groups.

Figure 6.1 Diabetes
Rates of Physician Visits
First Nations and Matched Controls, Alberta, 2000

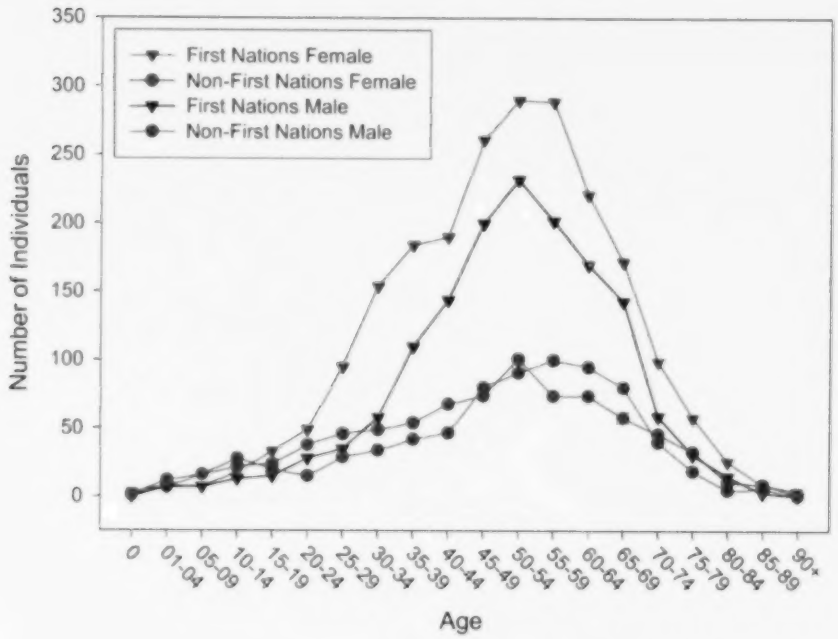


Treated prevalence is generally underestimated of actual prevalence because there are individuals who have a disease but are not treated for it within a particular time period. They may also be treated but not have the diagnostic code recorded. However, general patterns by age and sex for treated prevalence echo actual prevalence patterns closely. Comparison of Figure 6.1 with information from the National Diabetes Surveillance System (NDSS) shows that treated prevalence underestimates actual prevalence by about 25 per cent. Age and sex patterns are similar.[25]

Physician Claims

Figure 6.2 presents the number of individuals who sought treatment. The largest number of patients are middle age or older, and females are more likely to seek treatment than males.

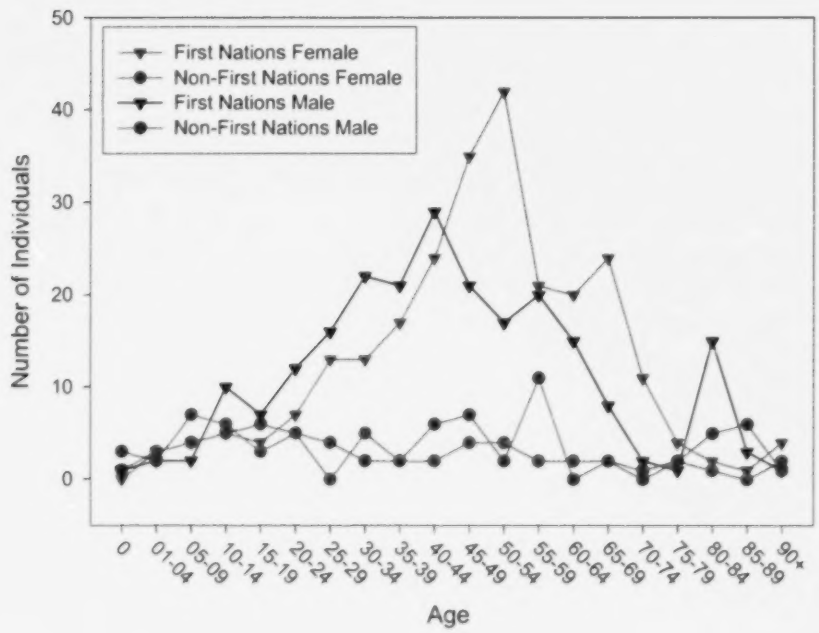
Figure 6.2 Diabetes
Number of Physician Visits
First Nations and Matched Controls, Alberta, 2000



Emergency Department Visits

Figure 6.3 shows the number of emergency department visits for diabetes among First Nations and matched controls in the year 2000. Relative to physician claims, there is an age shift that younger persons, particularly males, are more likely to go to an emergency department. While First Nations people are 2.6 times more likely than matched controls to go to a physician's office, they are four times more likely to go to an emergency department.

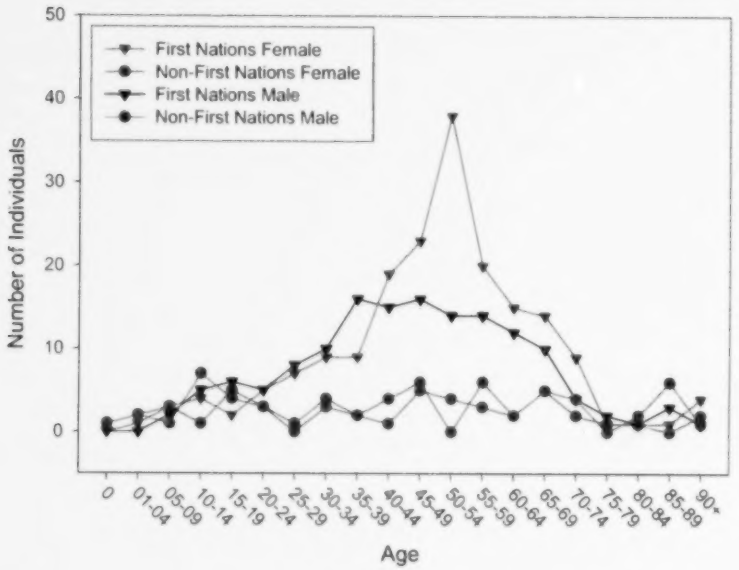
Figure 6.3 Diabetes
Emergency Department Visits
First Nations and Matched Controls, Alberta, 2000



Hospitalizations

Figure 6.4 shows a pattern of hospitalizations for diabetes similar to the pattern for emergency department visits. This is consistent with the emergency department being the primary entry point into the hospital. The rate ratio of First Nations people to matched controls is more similar to the ratio for physician visits. The use of health services by people with diabetes has an age distribution that is consistent regardless of the location of service.

Figure 6.4 Diabetes Hospitalization First Nations and Matched Controls, Alberta, 2000



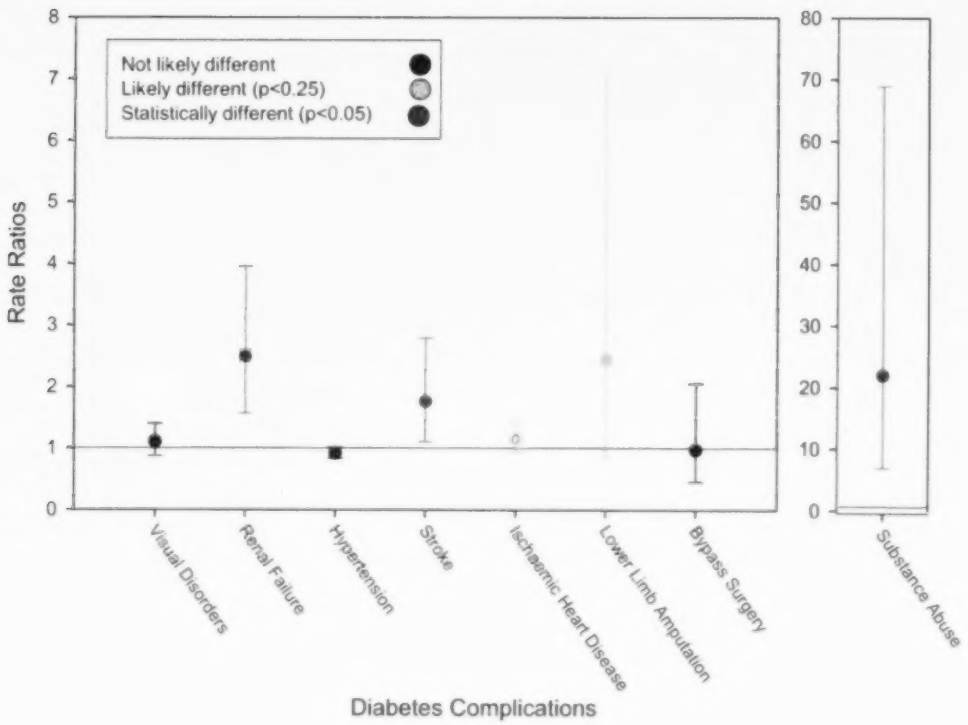
Complications

The introduction of insulin therapy has prevented the early mortality of many people who have diabetes. However, with that extension of life, there are now a variety of undesirable complications. According to Joe and Young,[30] the secondary complications of diabetes include:

- cataracts, glaucoma, and diabetic retinopathy leading to impaired vision and blindness;
- diabetic nephropathy, which leads to end-stage renal disease (ESRD);
- increased frequency of cardiovascular associated diseases including coronary artery disease, stroke, hypertension, and lower limb vascular disease that may result in gangrene and lower limb amputation;
- increased susceptibility to infection;
- increased rates of periodontal disease;
- increased rates of perinatal mortality and congenital abnormalities; and
- neuropathy.

Figure 6.5 below shows rate ratios between First Nations and matched controls for individuals treated within the same year for diabetes and selected complications. Periodontal, congenital abnormalities, and neuropathy could not be reliably measured using a single year of data. Selected surgeries were also examined as well as the treatment of substance abuse disorders.

Figure 6.5 Diabetes
Rate Ratios for Diabetes Complications and Risk Factors
First Nations and Matched Controls, Alberta, 2000



The much higher rate of treatment for substance abuse in the First Nations group suggests that the higher observed rates of renal failure and stroke (and probable higher rates of ischaemic heart disease and lower limb amputations) may be due, in part, to failure to observe self-care suggestions.

Why is Diabetes Prevalence so High?

Diabetes in First Nations populations was extremely rare prior to the 1940's; now it is endemic. "Aboriginal people consider diabetes an example of 'white man's illness,' a new, introduced disease" with "the adoption of modern foods and the decline of hunting and fishing" as underlying causes.[50]

One of the advisory committee members discussed the change of lifestyle across time:

> *They had different transportation – canoes, team and saddle horses. When they wanted to go some place, they walked, rode horses or paddled; there were no motor boats. They worked to feed their horses. They made their own hay. There were no power tools. They had to do everything manually. This meant they had to be physically active and they exercised every day and this gave them all kinds of energy. That's why people were healthier.*
>
> *Although we were poor in terms of having goods and money, we were able to support four to five people in our family while living in a one-room shack because we had plenty of food. We lived off the land and had big gardens. In the summer people picked berries and dried them for the winter. There were no refrigerators or freezers. My grandmother even made syrup from birch trees. We would eat the bottoms of cattails and bull rushes. Rabbits, moose, deer, ducks, fish, and wild chickens were part of our everyday diet. We used to get our food from the land – not from the store. People were moving all the time following the game – if they didn't move they didn't eat. That was the healthiest part - being able to hunt and gather food – being able to do something.*
>
> *I see people getting sick; there is so much sugar diabetes in my community. Doctors are giving them pills to swallow – these pills are not going to cure these individuals. It makes them more reliant on western medicine.* (Francois Auger, April 22, 2002)

This traditional way of life connects the actions and positive feelings from living close to the land with a state of robustness among First Nations people that existed before colonization.

Colonization as Culprit

Some postulate that higher rates of diabetes are a result of colonization and a lack of healing from the colonial experience. According to Jennie R. Joe and Robert S. Young:[30]

> "In addition to the economic, social, and biological consequences of the conquest, there were also undetermined long-term psychological consequences, psychological scars that left many once proud Indian nations with a sense of hopelessness and powerlessness, and in most instances, a lifestyle colored by chronic, abject poverty. Unfortunately, despite the passage of time, healing has not occurred; instead, some of the long-term psychological consequences of many of these earlier traumas continue to plague the present generations of Indian people."[30]

Some Aboriginal people believe the residential school programs in place between the 1920s and 1970s have left indelible emotional scars.[7] Left unresolved, these contribute to unhealthy lifestyle patterns that put a vulnerable population at risk for developing complications related to diabetes because they lack the motivation to deal with their physical health and emotional issues.[7]

Alcohol consumption is also a risk factor for diabetes.[38] Alcohol is not a component of traditional Aboriginal culture and it is often used as an unhealthy coping mechanism to deal with issues affecting the loss of traditional lifestyle and cultural change.

Problems with the treatment of diabetes also tie in to the 'cycle of crisis' previously discussed in relation to injuries:

> *When we hear about sugar diabetes we know that the statistics are high among First Nations. We know people use needles for diabetes. We see people getting operated on and we see them coming back in boxes.* (Denys Auger, October 22, 2002)

The statement above refers to the loss of life as a result of diabetes-related complications. The second, less obvious type of loss, is of native traditional health practices in managing and preventing diabetes. First Nations people are more reliant upon the western health care system and are less apt to practice health and healing through their own indigenous health systems.

What are the Paths to Follow?

Diabetes is becoming accepted as a multi-factorial disease. First Nations people may acknowledge they may have a genetic predisposition to diabetes, or that it is caused by the loss of traditional lifestyle. So why has diabetes been so difficult for First Nations people to manage?

The Elders on the advisory committee strongly believe it comes back to how one chooses to live. They say the solution can be sought in a balance between traditional values and health practices of First Nations people and practices of modern western health care.

Many First Nations people rely on the western medical system to manage diabetes. Some are bicultural and rely upon both the western medical system and the native ways of healing. A few others rely completely on the native way of healing. The acceptance of native healing by native people is a paradox. On one hand, it seems that until scientists validate the indigenous ways of knowing and healing, the practices will not be applied and practiced. On the other hand, researching indigenous ways of healing raises political, moral, and ethical issues of cultural appropriation. First Nations people feel they need to lead the way to prove indigenous ways are effective in managing and preventing diabetes.

Respiratory Disease and Air Quality Among First Nations People

Though people breathe about 12 times every minute, it is not something we think about. However, for people with respiratory disease, breathing cannot be taken for granted – every breath counts.

Serious respiratory diseases include: asthma, acute bronchitis, and chronic obstructive pulmonary disease (COPD). Transient respiratory disorders that might become serious in specific cases include influenza, pneumonia, acute respiratory tract infections, and upper respiratory tract infections. The definitions, risk factors, general pattern, and age-sex patterns are provided below.

Definitions

Asthma is a chronic health disorder characterized by symptoms of cough, shortness of breath, chest tightness, and wheeze. Exposure to allergens, viral respiratory infections, exercise, or exposure to irritant fumes or gases can trigger an asthma attack that results in "an inflammation of the airway wall and abnormal narrowing of the airways".[22]

Chronic obstructive pulmonary disease (COPD) "is a chronic disease with shortness of breath, cough and sputum production".[22] The symptoms generally do not appear until middle age with changes to the lung appearing earlier.[22] The factors that predispose individuals to COPD include cigarette smoking, genetic deficiency, occupational exposure to dusts and some fumes, air pollution, childhood respiratory tract infections, chronic bronchitis, emphysema, and exposure to tobacco.[22] COPD progresses slowly over a period of years, reducing the quality of life for those affected.[22] COPD is irreversible and often results in death.[22]

According to the American Lung Association, bronchitis is an inflammation of the lining of the bronchial tubes (bronchi) that connect the windpipe with the lungs. When the bronchi are inflamed or infected, less air flows to and from the lungs causing the person to cough up a heavy mucus or phlegm. Bronchitis may precede or accompany pulmonary emphysema. Again, cigarette smoking, bacterial or viral infections, air pollution, and industrial dusts and fumes, are factors that can cause chronic bronchitis. Chronic bronchitis typically affects those over 45 years of age – more often females – but anyone who smokes or works with dust and fumes is also at a high risk of developing this disease.

Influenza is a highly infectious respiratory disease caused by a virus. It can progress to pneumonia making it life threatening.

There are many infectious agents that cause pneumonia. The most frequent causes of pneumonia among adults and the elderly population include: *Streptocooccus pneumoniae*, respiratory viruses, *Mycoplasma pneumoniae*, *Chlamydia pneumoniae,* and *Haemophilus influenzae*.[22] The influenza virus is the most common viral agent to precede secondary bacterial pneumonia.[22] Among children under two years of age, respiratory syncytial virus (RSV) and other respiratory viruses are the main cause of pneumonia and bronchiolitis.[22] Among youth less than 15 years of age, mixed bacterial and viral infections are often observed although "the causal agents remain unidentified in about 30 per cent of the cases".[22]

According to Health Education Associates, an acute respiratory tract infection can affect both the upper or lower respiratory systems. The upper respiratory system includes the ear, nose, throat, or sinuses and the lower respiratory system involves the trachea or windpipe, bronchial tubes, and the lungs. An infection can occur in one or both of these systems. Infection is usually initiated by a virus but sometimes can be caused by bacteria. An upper respiratory infection (URI) is referred to as the common cold.

Risk Factors

The prevalence of chronic respiratory disease is expected to increase in the future as the population ages. However, this does not mean respiratory disease is directly linked to aging. Smoking and the effects of second hand smoke will also contribute to respiratory disease. Those exposed to an infectious respiratory virus, or those who experience poor air quality, are also at risk for forms of respiratory disease.[22]

Other risk factors identified for respiratory disorders among Aboriginal people include: feeding practices, socio-economic factors such as housing, residential crowding and family size.[18] Family history of allergies, high exposure to airborne allergens in the first years of life, exposure to tobacco smoke including foetal exposure, frequent respiratory infections early in life, low birth weight, and respiratory distress syndrome contribute to respiratory disorders.[22]

Risk factors occur at various levels including environment, population, and microbe level. Therefore, one needs to simultaneously consider air quality, lifestyle, and the mode of transmission of infectious respiratory disease.

Indoor and Outdoor Air Quality Issues

Emissions of pollutants through the combustion of fossil fuels in motor vehicles, smelters, homes, thermal power plants, and industry all degrade air quality.[22] In a study of eleven Canadian cities, Edmonton had the lowest air pollution concentrations between 1980 and 1991 while Calgary registered higher concentrations.[22]

Sources of outdoor air pollution include gaseous pollutants, ground-level ozone, and particulate matter consisting of a broad range of chemical species.[22] Across Canada, higher levels of ground level ozone (a naturally occurring gas) are associated with increased admissions to hospitals.[22] Ozone concentrations are generally lower at urban locations than at rural locations.[2] Particulate matter consists of a mixture of sources that can be inhaled into the nose and throat but do not normally penetrate into the lungs. This includes: windblown soil, road dust, dust from harvesting, industrial processes, flying ash from power plants, carbon black from diesel and gasoline engines, and soot from wood-burning.[2]

Poor air quality may also be experienced indoors. Sources of indoor air pollution include external air, environmental tobacco smoke, biological material, combustion products, and radioactive materials. Biological materials include bacteria, viruses, and allergens produced by cats, dogs, domestic birds, fungi, house dust mites, and cockroaches.[22] Combustion products include wood smoke, and poorly vented kerosene heaters. Radon (radioactive gas) is a well-known human carcinogen known to be the second leading cause of lung cancer after smoking.[22]

Researchers have studied effects of outdoor air pollution on respiratory health and they have revealed a link with premature deaths and increased rates of hospitalization.[22] People with respiratory diseases are likely to experience more problems with the subtle effects of exposures to air pollution.[22] Furthermore, if one is exposed to ambient levels of air pollution for a long time, it is possible to develop lung cancer.[22] Studies that have investigated the impact of outdoor air pollution specifically on children have noted "increased cough and wheeze, increased use of airway medications, increased physician and hospital respiratory visits, and a permanent reduction of lung capacity".[22] "Long-term exposure to acidic particles may have a harmful effect on lung growth, development and function with the length of exposure time being a potential factor".[22] An American study also found "an association between exposure to particulate air pollution and sudden infant death syndrome (SIDS)".[22]

Tobacco: Addiction or Culture Issue?

Lifestyle changes can be very difficult to make, especially when the risk factor to be changed is accepted as part of your culture. Among Aboriginal people, smoking has cultural significance because there are traditional and non-traditional uses of tobacco.

Tobacco is considered sacred and there are stories about how the Creator had given it to First Nations people to use. The use of tobacco is embedded in the spirituality of First Nations people for prayer and offering. Historically, First Nations people grew tobacco and that type of tobacco was deemed sacred.[37] Tobacco was used for many forms of prayer. Some of it was given as an offering to the many spirits existing in the spirit world. Some of it was smoked as another way of praying. Unfortunately, the tobacco that was grown historically and the tobacco that is manufactured today are different products. Contemporary First Nations people have substituted traditionally grown tobacco with manufactured tobacco. It is apparent that First Nations people who smoke tobacco, whether for traditional or non-traditional reasons, are more susceptible to respiratory disease.[37]

Not all tobacco is used for spiritual purposes. In fact many Aboriginal people have developed addictions to tobacco. There is a need to address smoking cessation among Aboriginal people in order to reduce respiratory disease as it not only affects those who smoke but the people around them, including unborn children. Health Canada[22] states that:

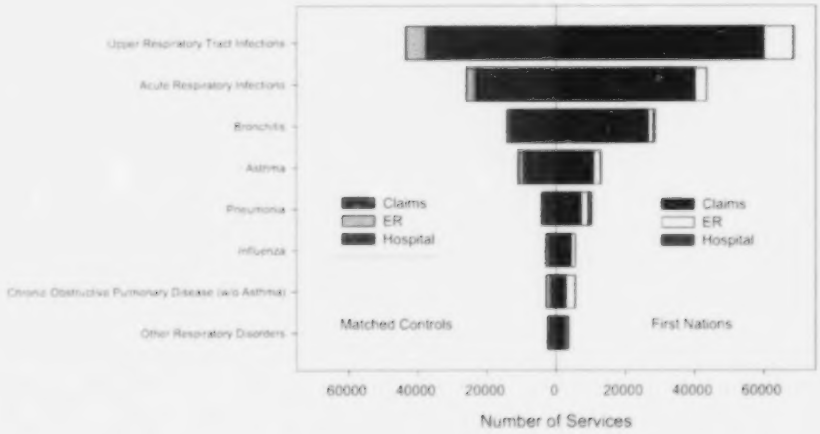
> "Whether direct or indirect, exposure to tobacco smoke contributes to asthma, chronic obstructive pulmonary disease (COPD) and lung cancer among adults, and asthma, bronchitis and bronchiolitis, sudden infant death syndrome (SIDS) and infant respiratory distress syndrome (RDS) among children. Those who quit smoking can greatly reduce their risk of developing respiratory diseases compared with those who continue to smoke. In general, the longer the period of cessation from smoking the greater is the reduction in risk."[22]

To be effective, smoking cessation programs need to address the cultural context of First Nations peoples. Therefore, First Nations people need to design and develop smoking cessation programs to effectively reduce the risks of smoking in ways that will not detract completely from their traditional norms.

General Pattern

Figure 7.1 shows services provided by physicians, in emergency departments, and during hospitalizations in the year 2000 for First Nations and the matched control group.

Figure 7.1 Services
Respiratory Disorders by Source and Diagnosis
First Nations and Matched Controls, Alberta, 2000

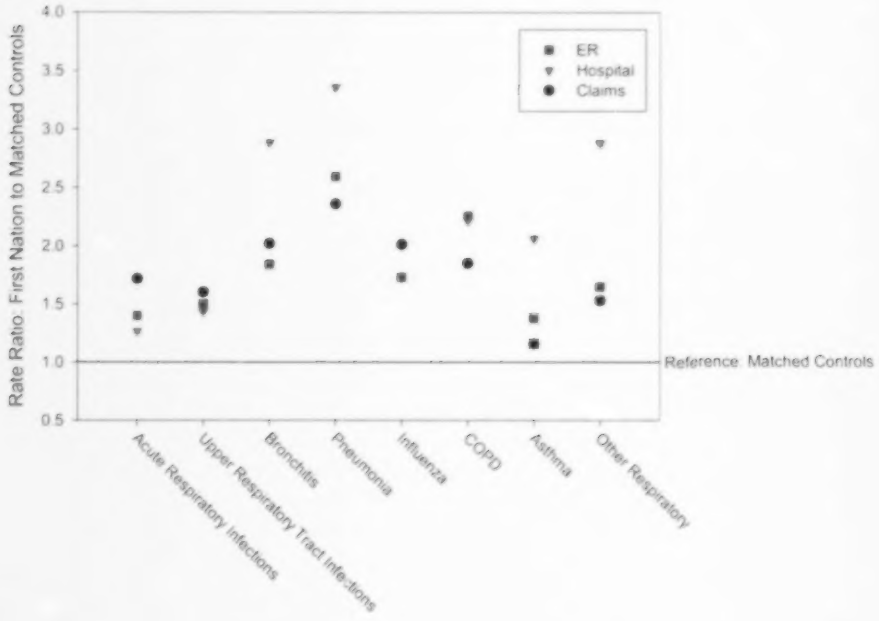


For both groups, people were more likely to receive care within a physician's office than at the emergency department; relative to these, hospitalizations are rare events.

It is clear that First Nations people, compared to the control group, use more physician services for upper respiratory infections (URI), acute respiratory infections (ARI), bronchitis, pneumonia, influenza, COPD, and other respiratory diseases.

It also appears emergency department visits and hospitalizations are generally more numerous among First Nations people. In Figure 7.2 where it is clear that the largest disparities are for treatment of pneumonia and bronchitis.

Figure 7.2 Rate Ratios
Respiratory Disorders by Source and Diagnosis
First Nations and Matched Controls, Alberta, 2000



Age-Sex Patterns

The age-sex curves for most respiratory disorders have a consistent shape. There are more individuals at younger ages for which services are provided. There is also a steady decline in numbers of individuals served as age increases.

There are more young males than females requiring services for respiratory disorders. In adulthood, however, more services are provided to females. In old age, there is generally no disparity between the sexes.

These tendencies are apparent despite diagnostic differences and differences in mode of treatment. This is shown in the following graphs for hospitalizations for pneumonia and physician visits for asthma.

Figure 7.3 Pneumonia Hospitalizations
First Nations and Matched Controls, Alberta, 2000

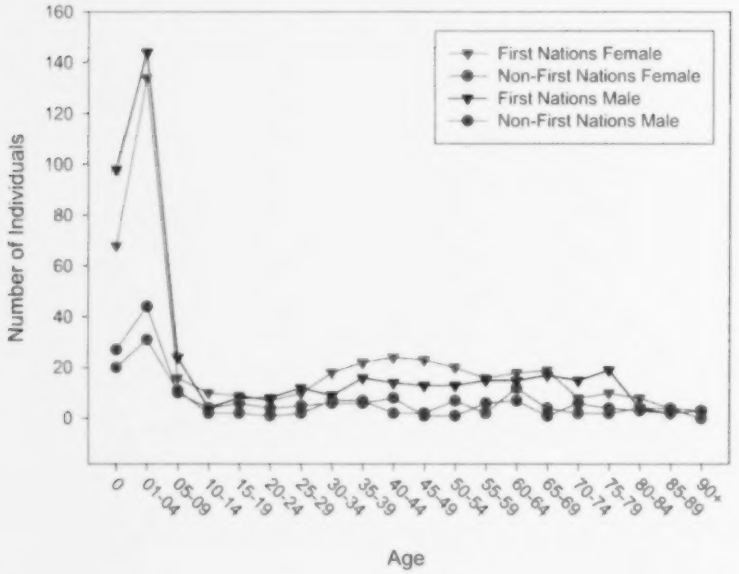
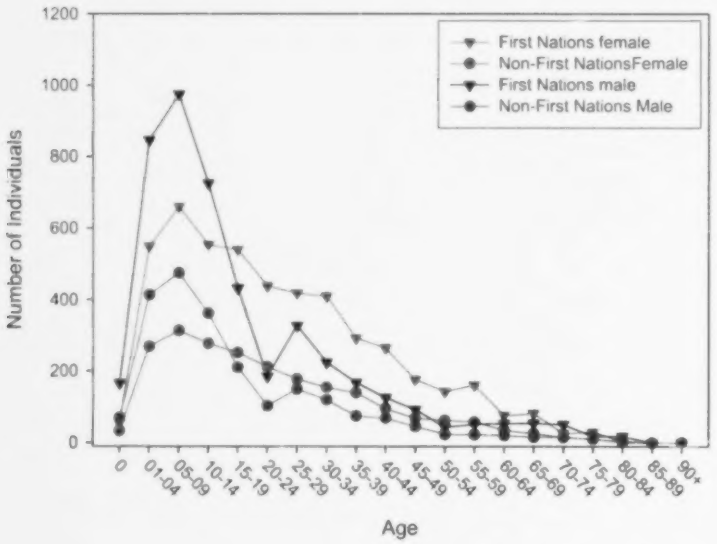
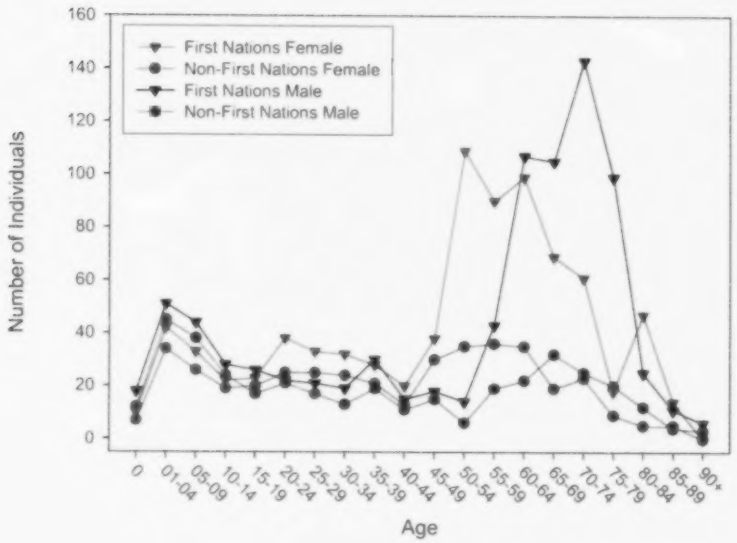


Figure 7.4 Asthma – Physician Visits
First Nations and Matched Controls, Alberta, 2000



The exception to this age pattern was for chronic obstructive pulmonary disease (COPD) as shown by physician visits in Figure 7.4. The number of individuals seen by physicians increased with age, especially within the First Nations group.

Figure 7.5 Chronic Obstructive Pulmonary Disease (COPD) Physician Visits First Nations and Matched Controls, Alberta, 2000



Heed the Warning

A member of the advisory committee commented on the lack of attention that respiratory diseases receive and identifies a solution.

> *Respiratory disease has not received much attention from the Aboriginal community, or from the external community for that matter, as some other diseases or injuries. Respiratory disease is becoming more important partly because of the excessive use of tobacco, particularly by young people. It takes a number of years for a respiratory disease to develop and if young Aboriginal people continue to smoke in the future, the next generation will experience the threat of respiratory disease. Attention to the excessive use of tobacco through prevention, cessation and awareness programs and research on respiratory disease in Aboriginal communities is needed. Aboriginal parents have to become aware that they shouldn't smoke around their little children – it's just not responsible parenting and that's where it has to start. Many adults have said they can't stop easily and they don't want their children to start either so we also need programs to get the cigarette smoke out of the houses.* (Dr. Malcolm King, February 5, 2003)

Reproductive Health: A Hope for the Future

Successful reproduction and children's health are critical to the health of communities. Measures of reproductive health of the First Nations population are presented below.

Child Survival

Infant mortality, the rate of death within the first year of life, is generally understood to provide an indication of accessibility and adequacy of health care services.

Using data collected by Health Canada, the First Nations Confederacy of Cultural Education Centres (FNCCEC) states that as of the mid-1990s:

> "First Nations children have a higher infant death rate (<1 year of age) than other Canadian children. Among First Nations infants, the death rate is 13.8 per 1,000 live births as compared to 7.3 per 1,000 live births for all of Canada. Infant death rates are made up of neonatal death or death within the first month of life and post-natal death or death between one month and one year of age. The neonatal death rate for First Nations babies was 6 per 1,000 live births as compared to 4.7 per 1,000 live births for all Canadian babies. The post-natal death rate for First Nations babies was more than three times higher than for Canada as a whole – 7.9 per 1,000 live births for First Nations babies as compared to 2.5 per 1,000 live births for Canada as a whole."[17]

These figures are disturbing and call for strategies to improve prenatal care and overall reproductive health.

Birth Weight

The weight of an infant at birth is generally understood to provide an indication of the pre-natal health of the mother. It is also known to be predictive of the life-long health of the child.

Low Birth Weight

A newborn weighing less than 2,500 grams (5lbs. 8oz) is considered low birth weight (LBW). LBW is an internationally accepted measure of population health status and a strong predictor of health status in later life. The effects on the child's health include death in infancy, underdeveloped respiratory systems, weakened immune systems, chronic ill health, and life-long health and social problems.[38]

Factors that influence low birth weight include premature birth, congenital anomalies, multiple pregnancy, acute or chronic disease in the mother, and young or old maternal age. Alcohol consumption, smoking

and drug abuse during pregnancy have also been linked to low birth weight birth. Low socio-economic status can contribute through inadequate nutrition, poor living conditions, and a lack of prenatal care.[1,3]

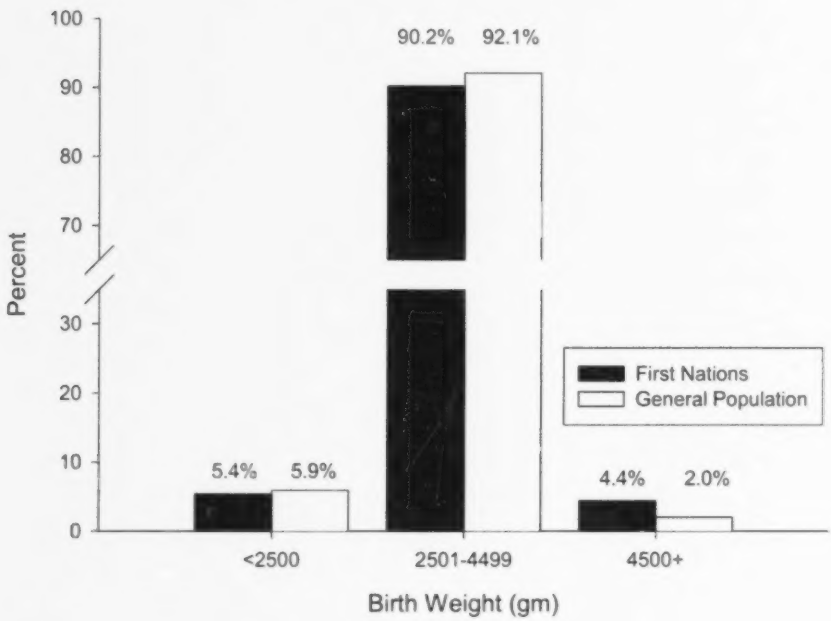
High Birth Weight

High birth weight occurs when a child is born weighing 4,000 grams or more.[10] There is some indication these babies "are more likely to be overweight or obese during adolescence and therefore are at greater risk for diabetes" and other health problems.[33]

"If the mother has gestational diabetes the risks to infant include high birth weight, trauma during birth, low blood sugar in the newborn, prolonged newborn jaundice, low blood calcium, and respiratory distress syndrome.[16] Among Aboriginal people, high birth weights have been linked to gestational diabetes to produce Type 2 diabetes in adults and this is known as the 'hefty fetal phenotype' hypothesis." [15]

Figure 8.1 below shows the distribution of birth weight for hospital births in Alberta from April 1, 1999 to March 31, 2000.

Figure 8.1 Birth Weight Distribution, Hospital Births First Nations and General Population, Alberta Fiscal Year 1999-2000



While First Nations women were marginally less likely to give birth to a low birth weight baby, they were more likely to give birth to a high birth weight baby.

Possible explanations for this difference include:

- younger females tend to give birth to heavier babies[1] and the First Nations population gives birth at a younger age. In turn, the reasons for this lower age of fertility may be found in socio-cultural factors;
- increased prevalence of gestational diabetes within First Nations women leading to an increased probability of high birth weight; or
- possible genetic differences.[13]

The Sacredness of Life

For First Nations people, life is sacred. The role of women is revered as sacred because they are considered to be the givers of life. Women need to honour and respect their bodies. The life one is able to give must be nurtured and supported to prevent unnecessary suffering to the child growing within.

Based on their experiences in both the urban and rural communities, advisory committee members commented on how maternal health impacted the health status of children.

This is what a committee member stated with respect to identifying the effect of poor maternal health on children:

> *The children need to function. It is the upbringing of the children from the womb that enables them to walk and talk. These are sad areas that need to be looked at seriously...We, as a people, don't take care of our bodies. We need to know what we put into it and how it affects our mind, body, and spirit.* (Denys Auger, October 22, 2001)

The role of parents was also identified as primary to children's health. One of the general teachings offered to parents is to think of the repercussions of our actions by thinking seven generations ahead. Women who are with child should put this theory into practice and consider the health needs of those not yet born. However, applying this theory is more difficult if there are unhealthy lifestyle issues within the home.

One committee member reflected upon the changes from the past to the present and identified the role of Elders in helping parents:

> *Before electricity - those were the happiest days we could remember. We didn't have the fighting and bickering in the Aboriginal community. We lost our pride in being Aboriginal. There are a lot of things we have to regain. We know the problems mentally and physically. We target parents and guardians to heal the anger they had. A lot of our children in the past who were taken from their parents have this anger because nobody loved them. We are educating to help our community.* (Frank Daniels, October 22, 2001)

A Call to Arms – Becoming a "Health Warrior"

A Unique Collaboration

This report is the result of a unique collaboration of quantitative and qualitative methods used to gain a better understanding of the health of First Nations people. Large administrative databases were used to identify First Nations peoples' use of provincial health services and these data were then compared to utilization data for a matched control group drawn from the general population.

A clearer picture of First Nations health issues was obtained through meetings that enabled advisory committee members to present data and by listening to the lived experiences of advisory committee members in the talking circles.

Useful Products

A baseline database has been created that can be updated periodically to provide information critical to determining the health care priorities of First Nations communities and their health service providers. This report and accompanying data CD are intended to be used by the First Nations community, health care administrators, professionals, and academia.

A Contribution to Broader Objectives

This study contributes information crucial to distinguishing the kind of targeted health care programming currently needed by First Nations communities and providing direction to specific health issues that should be addressed in future. In effect, this study is establishing First Nations benchmarks that mirror 10-year targets established by the Premier's Advisory Council on Health.

This study has also contributed to the objectives of the Aboriginal Health Strategy and Alberta Health and Wellness' commitment to promote the health status and well being of Aboriginal people through the cross-government Aboriginal Policy Initiative (API). The development of annual data to measure improvements in health status among First Nations Albertans has been specifically identified as a priority API Target in the 2003-2006 Government Business Plan. Through the project manager and the advisory committee, this study also provides Alberta Health and Wellness opportunities to promote capacity development in First Nations health research.

The Value of a Bicultural Process

It is with much gratitude and respect that we thank and acknowledge the support, wisdom, and guidance of the advisory committee. The advisory committee engaged in a groundbreaking bicultural process that was inherent to building rapport between those of a traditional native background and those from mainstream society. Through their voices we were able to better understand health issues from both a historical and

contemporary viewpoint, which helped to provide a context for this report.

By understanding the historical experience of First Nations people as viewed from their perspective, we realize traditional and cultural milieu is of significant importance to health and well-being. First Nations people are able to seek an alternative form of holistic health care that addresses mind, body, spirit, and emotions to promote health and wellness. Culture is integral, and we recognize there has been an experience of cultural loss. Many First Nations people do not have access to or do not practice traditional ways in the way their ancestors did.

While a few people may rely completely on their traditional cultural practices to meet their health care needs, not all First Nations people maintain that level of traditionalism. Over time, many First Nations people have become bicultural. That is, they use aspects of their own culture and the western health care system to meet their needs. There are those who are completely assimilated and meet their needs strictly through the western system. There are also those who are multicultural and use aspects of many cultures and systems to meet their needs.

Defining 'health care needs' depends upon the definition of health that is accepted. Health is defined by the World Health Organization as a "state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." The concept of health is broad. From a First Nations perspective, the aspect of spirituality should be added to this definition. In conceptualizing health, we have considered it to be both "an indicator of an individual's well-being, [and]... a sign of success achieved by a society and its institutions of government in promoting well-being and human development".[41]

Fighting Disparity

High health care utilization among First Nations people is an indicator of disparity. This is not unique to First Nations in Alberta. Michael E. Bird, the immediate past president of the American Public Health Association, identified the phenomenon of disparity, dispossession, and health inequalities among the American Indians, Native Hawaiians, Australian Aboriginals, the Maori of New Zealand, and tribes throughout Central and South America.[9]

One way to address this disparity is from a 'determinants of health' framework. The determinants of health include: income and social status, social support networks, education, employment and working conditions, social environments, physical environments, biology and genetic endowment, personal health practices and coping skills, healthy child development, health services, gender, and culture.[20] These determinants

should be considered in any cross ministry initiative addressing the health of Aboriginal people.

Douglas Cardinal, a renowned architect and visionary, iterated the importance of empowerment for First Nations people. While it seems there is only despair, First Nations people should not consider themselves to be inferior. "We must understand that, as native people, we have 100 per cent responsibility for our lives."[19] That sense of empowerment is derived from the strength of belief in the culture and ties to the land.

To address health inequality and high utilization rates, it is suggested the framework for the *Ottawa Charter for Health Promotion* be used as a guide. The framework includes developing healthy public policy and personal skills, reorienting health services, creating supportive environments, and strengthening community action. These activities should be done with First Nations representation and consultation.

Using an indigenous perspective calls for a new approach and a call for both genders to practice the "health warrior" concept in the field of health. The term "health warrior" is a serious call for action amongst health providers, administers, and First Nations communities, not to be confused with derogatory stereotypes. This requires a pro-active approach to addressing health issues from individual, family, community, and Nation perspectives. Services and programs need to focus on providing bi-culturally appropriate approaches to achieve a sense of balance of the four aspects of mind, body, spirit, and emotions. It requires "we", from both the mainstream and First Nations communities, become health warriors and "walk the talk" to achieve health and wholeness needed in both the First Nations population and in mainstream society.

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